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THE LANGUAGE
AND
MENTAL DEVELOPMENT
OF CHILDREN

AN ESSAY IN EDUCATIONAL PSYCHOLOGY

BY
A. F. WATTS D.Lit.(Lond.)



LONDON
GEORGE G. HARRAP & CO. LTD.
SYDNEY TORONTO BOMBAY STOCKHOLM

IN MEMORY

F. O. M.

εἰς ἐκεῖνον τὸν βίον, ὅταν αἰθρὶς γενόμενοι
τοῖς τοιούτοις ἐντύχωμεν λόγους.

First published June 1944
by GEORGE G. HARRAP & CO. LTD.
182 High Holborn, London, W C.1

*Reprinted: June 1945; April 1946;
November 1948*

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COMPOSED IN BASKERVILLE TYPE AND PRINTED AT THE PITMAN PRESS, BAILEY
MADE IN GREAT BRITAIN

PREFACE

THIS book deals with the part played by language in the mental development of English children, the course of which I have attempted to trace partly with the help of such recorded research as I have been able to locate and partly by means of objective tests specifically designed for the purpose. Most of the original material so employed will be found in the form of appendices to the main text. Briefly, my task has been to try to outline the principal stages through which children normally pass in their efforts to say and write what they think and feel about the worlds they live in—the world of objects and events in space and time, the world of persons, and the world of ideas and values. My hypothesis is that these stages indicate the existence of an orderly sequence in development which is the same for all children. For the purposes of this book language has been identified with verbal expression; it embraces much more than that, of course.

The book consists of ten chapters, the first of which will, I hope, explain the point of view adopted throughout. The chapters that follow it deal with the various aspects of children's linguistic development—with language as a means of expression, as an instrument for facilitating thinking, as a medium of communication, as a means of persuasion, as a stimulus to the imagination, and as a source of æsthetic delight. It may be said, perhaps, at this point that the field here outlined is one which has been largely neglected in this country. One or two corners of it have been assiduously cultivated, it is true, but great tracts are still virgin. The effort will have been well worth while if I have done no more than indicate where further possibilities for useful exploration lie.

Chapter II treats of the nature and extent of children's vocabularies at different ages, and it is shown that these vocabularies are larger and more varied than the majority of us suppose. The deficiency which the average child suffers from is not, as a rule, a deficiency in the number of words at his command, but in their adequacy for expressing thought at the higher levels. In Chapter III the child's ability to put words together to make sense is traced from its beginnings to the point at which he is able to develop a theme with some skill, provided the subject with which he is dealing is not too abstract. The problems connected with the teaching of the art of reading are investigated in Chapter IV; here it will be found that I have put forward a new scale for the measurement of reading progress in young children. Chapter V is devoted to a study of the child's growth

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as a writer of English; in the course of this chapter I have endeavoured to trace the path naturally followed by children as distinct from that usually planned for them in the typical composition manual.

The remainder of the book deals with the part language plays in the efforts of children to adapt themselves to the worlds referred to above—the world of objects and events in space and time, the world of persons, and the world of ideas and values. In these worlds the child finds sooner or later that he is expected to conform in behaviour and outlook to the standards of truth, goodness, and beauty which are accepted by the adults among whom he lives. The point is made that these standards represent what he will grow towards rather than what is natural to him while still immature; they are expressed in words which are such as he does not habitually employ. In short, these standards have been framed with a wider reference and with fuller and deeper social implications than can be appreciated by young children; indeed, they may be as foreign to him in an unfavourable environment as would be the obligations of twentieth-century hygiene to the members of a primitive people brought face to face with the necessity for living in a modern civilized community. To particularize further, Chapter VI is concerned with the development of the child in his knowledge of the world of objects and events in space and time, as it is reflected in his everyday speech. In Chapter VII his efforts to adapt himself to the world of persons are dealt with, and grounds are indicated for supposing that development in this direction is less sure and less speedy than we should be likely to infer from the nature of the syllabuses of lessons in history and literature which the child is expected to follow at school. Chapters VIII and IX deal with the more intangible world of ideas and values, and here we are faced with the problem of bringing the child at different stages of his growth into intimate touch with what is best calculated to keep him moving along the road to full development.

The conclusions reached should be of interest to parents and teachers, and, indeed, to all who seek to influence the young; for unless we know what our words are likely to convey to children who are frequently without the experience needed for interpreting them properly—the experience, that is, which comes with growing up—we shall find only too often that we and they are talking different languages with little chance of our understanding one another's needs, the more particularly where the deeper issues of life are involved. Thus, if it is agreed that linguistic development is as much dependent upon the maturing of the mind through age and experience as upon the acquirement

of stocks of words and phrases, then it must follow that education should begin with the provision of the experience which will best assist maturation, rather than with the regulated absorption of the systematized verbal knowledge of adults, and that it ought to proceed through reading and through discussion of what is occupying the child's horizon at the moment rather than through formal instruction based on generalized material of the kind commonly found in school text-books. It is to be feared that far too much educational effort in the past has been energized by the conviction that all children, except perhaps the mentally defective, can be taught almost anything, no matter how generalized its form, how adult its setting, or how remote in time or space its potential applicability, provided only that its intellectual content is not too difficult and that they and their teachers work hard enough to acquire familiarity with its verbal expression.

There will be no need, then, to add that this book is not intended to be a plea for an exclusively verbal education. "Things before words" has always been, and still will always be, a sound educational maxim. First-hand experience is necessary; so is the activity of the mind operating upon it with the aid of linguistically expressed principles to give it meaning. The two must be brought into fruitful contact if they are to produce their maximum yield of significant experience. In childhood, interest and curiosity are mainly directed to the world of perceptual particulars, any discussion of or reflection about which, for the purpose of making them the better understood, cannot proceed in the absence of language. A verbal education is needed, therefore, to illuminate and relate to one another in an orderly fashion the separate facts that have been directly apprehended through the senses, and to do so in order to ensure a fuller realization of the further possibilities that lie ahead.

The problem before the teacher, accordingly, is to arrange a programme of education which will combine opportunities for observation and activity with thoughtful and lively discussion that will show their significance for wider spheres and broader purposes. The mistake in the past has been the mistake of imposing systematizations and meanings (too often staled or dulled before reception) upon children who were without the background of experience or the mental maturity to appreciate them at what adults would consider to be their proper value. The mark of the successful teacher is that he will know how to assist his pupils to pass from an enjoyment of the moments of concrete experience to an understanding of the general principles which these experiences may be seen to exemplify. To do this he will have to talk in general terms, but he will be careful to employ

only those that are likely to call up in the minds of his listeners the images of the objects and occurrences, the common features of which cannot otherwise be described.

One further point should, perhaps, be made. The reader who is fortunate enough to have acquired an intimate knowledge of the thoughts and behaviour of any one child over a long period may well conclude that in setting out the results of tests I have pitched some of my norms of performance much too low. But there are at least five good reasons why they are what they are. In the first place it has been my practice to examine children, for the most part, in fairly large groups rather than individually; I have dealt with them in the atmosphere of the classroom rather than in the more informal atmosphere of the home; I have tried to take a representative cross-section of the child-population rather than concentrate upon a few who might or might not have been a good sample of the whole; and I have generalized as a rule from data produced in response to an external request rather than trusted to data yielded spontaneously. All these conditions have had the effect, no doubt, of chilling the ardour of the individual child in his attitude towards me. However, it should be said that some teachers working in slum neighbourhoods have found my norms too high. One might add also that the children of whom psychologists have given us the fullest accounts have been children more often than not from homes superior to that of the average child and with greater innate mental capacity as well.

In conclusion it must be said that the experimental work which has formed the basis of so much of the present book could not have been carried out by the author unaided. To those teachers and friends who have given me a great deal of ungrudged assistance I am glad to say here how much I am indebted to them.

A. F. W.

January 1944

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PART I

THE LINGUISTIC SKILLS

CHAPTER I

LANGUAGE, THOUGHT, AND EXPERIENCE

1. THE FUNCTIONS OF LANGUAGE

The functions of language cannot be summed up in a sentence or two. So many and various are they that we may well wonder whether language is best represented at the meetings of the Royal Society or in the pulpit at St Paul's, in the House of Commons or on the stage, around the tea-table or on the barrack-square, on the library shelves or on the hoardings in the streets. Indeed, language has been devised and developed for all kinds of uses; for exciting attention, for the expression of feeling, for graphic description, for conveying instructions, for service in closely reasoned thinking, for scientific exposition, for disputation, for rhythmic delight, for gossip, and for abuse. To put it more formally, language serves to assist memory and facilitate thought; to communicate meaning and, when necessary, to conceal it; to express feeling and, when necessary, to disguise it; to state intentions or merely to intimate their nature; to influence or control the actions of others; and sometimes to provide substitute satisfactions for those that would normally follow upon the exercise of bodily activity.

In the past language has been looked at from many points of view but seldom synoptically. The disadvantages of a one-sided outlook must, however, be readily apparent. Thus, to regard language as nothing but a means of communication will lead us either to overvalue its content—that is, to treat formal accuracy as of little value compared with bare effectiveness in communication—or, if we regard formal accuracy as of real importance so that language becomes for us a code of ready-made formulas with fixed meanings, then we may forget that a good deal of what is most precious in literature is incapable of reduction to any such plain terms. Again, to hold that if we wish to learn a given language adequately we must concentrate at once upon its greatest literature is to ignore the fact that literature has its roots in everyday speech, which must first be understood if literature is to yield its full meaning. To maintain, on the other hand, that language is essentially colloquial is to overlook the fact that the colloquial, as such, changes from age to age,

whereas every language retains a relatively unchanging core. Or, to say that language is just a system of running sounds—"slices of sonority"—will be to miss the fact that an increasing range of language consists of isolated words—names, notices, warnings, etc.—devised primarily for the eye. And finally, to regard language as just an instrument of thought is to neglect its social and æsthetic uses, in which the thought element is often of but slight significance.

2. LANGUAGE AND THOUGHT: THE TRADITIONAL VIEW

Nevertheless, a proper appreciation of the complex nature of language and, in particular, of the peculiar difficulties experienced by children in its use cannot be gained without an understanding of the relationship that exists between language and thought.

The traditional view is that thought and language are distinct activities, and that, though they frequently appear to be inseparable, a thorough-going analysis will usually show that thought invariably occurs first in the mind of the thinker and that only after he has divined its nature does he cast about for a suitable form in which to express it. Plato, it will be remembered, introduced Socrates to his hearers as an expert in bringing thought out from the inner world of the mind into recognizable existence in man's speech, and he likened Socrates in this respect to his mother, a midwife, for the profession of Socrates was also in its way maieutic. Other authorities have at no time been lacking in support of this view. To come to more modern times, it was Locke's belief, for example, that words are but the names, marks, or signs of ideas independently existing in the mind, and when Bishop Berkeley set out to study ideas as they might exist in what he called their "naked and undisguised form"—*i.e.*, without the linguistic clothing into which we put them to send them out into the world—he was also observing the same distinction.¹ Lord Chesterfield's way of putting the same thing was to say that "style is the dress of thoughts." Locke, Berkeley, and Chesterfield clearly believed with Alexander Pope that the same thoughts might be smartly or shabbily dressed, so that what is said in a slovenly manner may really be the same thing as that which is said with greater care. As Pope put it:

True wit is nature to advantage dressed,
What oft was thought, but ne'er so well expressed.

In the nineteenth century the same view of the relative independence of thought and language continued to be widely held. Darwin, for instance, wrote on one occasion to a friend, "I never

study style; all I do is to try to get the subject as clear as I can in my own head, and express it in the commonest language that occurs to me." And when Cardinal Newman said that the secret of a good style was to have something to say and know how to say it he too was implying that first we think our thoughts, and then if we are fortunate enough we find the words best suited for expressing them.

3. LANGUAGE AND THOUGHT: THE MODERN VIEW

The objection to the traditional view is that it treats language as being too completely identifiable with the normal mental processes of philosophers and scientists. It obscures the fact that the majority of us have to do such thinking as we can manage to do while we are engaged in the press of active work or in the throes of discussion. We find that we have been thinking only after we have said what we have thought. The course frequently urged upon children that they should think before they speak suggests that they, at any rate, do not observe the traditional rule. The Danish philologist Otto Jespersen made a reference in one of his books to a girl who says, "I talk so as to find out what I think—don't you?" He might have quoted a modern woman author who has said, "We must continue to talk about ourselves . . . till we know ourselves." Nor is this view unlike that which Shakespeare puts into the mouth of Prospero addressing Caliban, "I endow'd thy purposes with words that made them known."

Now it must have occurred to the reader that some of the persons alluded to above—the child, the girl, Caliban, and possibly the woman author—should be considered in comparison with the others—Locke, Berkeley, Pope, Darwin, and Newman—as persons of immature mental development, so that their mental processes ought not to be taken as evidence of what is normal among educated adults. But the same process of simultaneous thinking and speaking or writing would appear to be familiar to authors who attempt the higher forms of creative self-expression. Matthew Arnold, for instance, used often to speak of "intellectual aperçus" which he could not accept or reject till he had uttered them and thus seen them for what they really were. Again, Professor Alexander has declared that the great artist

does not, in general, first form an image (if he is a poet, say,) of what he wants to express, but finds out what he wanted to express by expressing it; he has, in general, no precedent image of his work and does not know what he will say till he has said it, and it comes as a revelation to himself.

Dealing, by way of example, with Burns's lyric, *My Love is like a Red, Red Rose*, Alexander asks:

Do you think that the poet had first in his mind some vision of the eternity of love which would last till the seas dried up or that in the æsthetic excitement of his feeling, or thought about his feeling, the thrilling words were out of him before he knew? ¹

This is, of course, the view to which Wordsworth gave expression in saying that when the poet is inspired by passion he does not cast about for words to express what he feels; they come.

4. CREATIVE AND REPRODUCTIVE THOUGHT

How can the two opposed views of the relation of language to thought be harmonized? It is clear that both the infant and the unsophisticated adult have to try out their thoughts by uttering them aloud before they can feel sure that they know what they are. It is equally clear that the same thing is true of the intuitions of highly original minds. On the other hand, it is also clear that to educated persons a great many thoughts occur with unmistakable identity in advance of their expression in words, so that they can truthfully say that many ideas come to mind before passing into speech.

It would appear that our more familiar thoughts become matched sooner or later with words sufficiently adequate for their effective expression, so that whenever the occasion occurs for their 'release' they are apt to become expressed time after time in the same forms. This being so, our having an idea may in many cases be no more than experiencing a feeling that the appropriate verbal response is about to follow. Thus, our commoner mental processes (perhaps *miscalled* thoughts) acquire through repetition a kind of internal sign which accompanies them whenever they are about to take shape in words, and it is by this sign that we learn to recognize them. In fact, the occurrence of a characteristic sign is often the reason for our exclaiming that we have an idea. There are times, of course, when we need to keep our thoughts to ourselves. But we can only keep to ourselves such thoughts as we have learned to know already by their acquired signs. These are the thoughts which it will not be necessary for us to utter aloud or to ourselves in order that we may recognize them, since they have already become thoroughly familiar through frequent repetition of the signs which have preceded the words used to express them.

¹ "Artistic Creation and Cosmic Creation," in *Philosophic and Literary Pieces* (London, Macmillan and Co., 1939).

When, however, thought is tentatively following new tracks and breaking fresh ground it is another matter. In this case we must give our thoughts words to make them known. Then we find out what we think by expressing it. Of this kind of mental process Plato speaks in the *Theætetus*: thinking, he says, is the conversation which the soul holds with herself.

The soul when thinking, appears to me to be just talking—asking questions of herself and answering, affirming or denying. And when she has arrived at a decision this is called her opinion. I say, therefore, that to form an opinion is to speak, and opinion is the word spoken—I mean, to oneself in silence and not aloud to others.

5. EDUCATIONAL IMPLICATIONS OF THE DIFFERENCE BETWEEN CREATIVE AND REPRODUCTIVE THOUGHT

The distinction which we have drawn between creative and reproductive thought should enable us to make a similar distinction between the sort of knowledge we may reasonably expect children to be able to put into words fairly easily and the sort which will always be a source of trouble to them. If we talk to them at length on a fresh subject that interests them, or get them to read books about it, then their first efforts to give the gist of it all in a few sentences will usually fall considerably short of success, partly because they will be engaged in the expression of relatively unfamiliar ideas which they have not had time to assimilate thoroughly, and partly because the task requires general terms for their expression which are usually outside their vocabulary. On the other hand, where they have been exercised time and time again upon a subject set out clearly in print they may well be expected to answer with comparative ease straightforward questions framed to reveal the extent to which they have mastered it. The difference between thinking in practised and novel situations is thus clear. In the twilight between clear knowledge and blank ignorance there is a place for the ideas which are still relatively unfamiliar or imperfectly understood but not for the ideas that are the common staple of everyday thought; their place is in the sun.

Or we may put it in another way. The production of a piece of narrative composition consisting wholly of a succession of stereotyped expressions which have become familiar and fixed through the reading of countless adventure stories is a far easier thing for a child than making a brief statement of the sense of a chapter in a study book, or finding a title which will just suit a paragraph he has read. The fact that in this latter type of exercise five minutes' strenuous thought may yield so few words

may make the exercise unattractive in these days of mass-production, but it is an exercise, nevertheless, worth setting frequently, for it makes a definite and intelligible demand on the mind and so produces the type of thinking of which Plato speaks, in which the mind has to ask itself many questions and give answers, affirming or denying, until at length its judgment becomes crystal clear.

6. THE CONCRETE AND THE ABSTRACT

The difficulty, as children encounter it, is that the language required for general discussion comes easily only to those accustomed to comparing freely with one another ideas which they have separately experienced, so that when experience is scanty and discussion rare this kind of language is not readily acquired. As long as children need language merely for telling what they have seen or heard done, without attempting to summarize it briefly or to express any judgment about it, they will have little or no need of words other than those which call up pictorial images of concrete things and events.¹

The first steps in their progress to a greater mastery of language may well follow upon their having to talk about properties which a number of things have in common. Some of these properties they will have observed, no doubt, before they learn the words by which they are named; others they may not observe until their attention is drawn to them in reading or in conversation. One common feature, for example, which pennies, threepenny-pieces, and shillings possess is, for adults, their metallic nature. The fact that they are all made of *metal* is less obvious to children, for whom they are primarily *coins*, or *money*. Because *metal* is less relevant to the purpose of children, the word itself appears late in their vocabularies; indeed, if a child is asked in what way a *penny*, a *nail*, and a *knife-blade* are the same he is unlikely to say they are all made of metal before the mental age of eleven. Below this age the bright child only can do without the aid of direct experience in building up a store of useful general terms of the non-picturable variety, in addition to those picturable class-names employed in conversation with his equals. The ordinary child and the unsophisticated adult will continue to think largely in terms of pictorial images more or less systematic-

¹ "There are degrees of abstraction. . . . This may be readily seen if one passes in review such a series of terms as, say, 'the horse that won the Derby in 1927,' 'race-horse,' 'horse,' 'quadruped,' 'animal,' 'life.' . . . It is just a matter of convenience and convention that only the more abstract terms are now called *abstract*, the less abstract being called *general*."—A. WOLF, in *Ency. Brit.* (14th edition), Volume I, pp. 65–66.

ally connected. It must be admitted that even the greatest of men rely a good deal more than many suppose upon pictorial imagery. It is said, for instance, of one of the greatest of our surgeons, John Hunter, that his powers as an investigator were superb, but that he was apt to be hampered at every turn by linguistic incoherence; his perfect visual and muscular memory and extraordinary technical ingenuity, however, made up for most of his linguistic deficiencies.

• Nearly all of us can solve many practical everyday problems concerned with the disposition of objects in space without recourse to even the simplest verbal concepts; words, in fact, are liable to be summoned only when we fail. For example, we should know in an actual emergency whether to open a west window or an east window if both existed in a room that badly needed ventilation with a south-east wind blowing outside. And we should act without having to think it out in verbal terms. In the case of practical-minded persons, children particularly, the majority of their thoughts occur, perhaps, in terms of pictorial imagery and unconnected with words, because they are not intended to issue in words but in deeds. Artists and craftsmen must also solve a good many of their problems in non-verbal terms. And since judgments about size, shape, colour, and weight are so often formed without the intervention of words, we ought to remember that a written examination paper may not tell us enough about the artistic or technical capacities of those we may attempt to place (if, indeed, we can do so) in an order of æsthetic or technical merit.

7. LANGUAGE AND PERCEPTION

The matter is by no means as simple, however, as it appears. It may well be that we see the world set out before us in a frame which we have formed for it through our early mastery of words, so that if we had not learned what is meant by such terms as *round*, *square*, *upright*, *level*, etc., or their equivalents, even the best of us would continue all our lives to grope about in a world limited entirely to knowledge provided directly by the senses—*i.e.*, to knowledge gained by acquaintance, and shut off from a kind of knowledge gained by description. Why, for example, does a cat never understand what we are doing if, in response to her cry for milk, we point towards a saucerful standing where she has not noticed it? The reason is that pointing is a conventional sign which cannot be understood by those (a) who fail to associate with it the meaning of a word, like *look* or *see*, and (b) who cannot at the same time continue the line indicated by

the pointing act. In short, they have failed to acquire the idea of a straight line, unassociated with any object, which children acquire by having their attention drawn to it through language.

From data gathered in cases of abnormal speech disturbance a good deal may be learned of the closeness of the relation between language and perception. Such speech disturbances may seriously impair the ability to perform mental operations that require the intervention of symbols, such as those of verbal language. Sir Henry Head concluded on the basis of his wide and unrivalled experience of aphasia that the power to understand instructions conveyed through pictures is dependent upon the ability to understand the words which would describe them.¹ In fact, some degree of internal verbalization must occur in all successful acts of this kind between the reception of the instruction in picture form and the execution of the order. Some of Head's patients could carry out an order to touch the right ear, say, with the left hand when told to do so in words, but they broke down when told to do the same thing as they saw it represented in a picture. Others could copy the actions of another person provided they were not placed opposite to him. This is of course, equivalent to seeing the other person as he would be seen in a picture. "If I am seated face to face with a patient and touch an eye or an ear with one or the other hand," says Sir Henry, "he may fail to imitate my movements, because he cannot bear in mind that our actions are apparently reversed. To carry out the test he is compelled to formulate to himself that my right hand is opposite to his left and that the same is true for eye and ear." Sir Henry's conclusion is, therefore, that the learning of the meaning of such words as *right*, *left*, *up*, *down*, etc., in a great variety of situations is the basis of our being able to interpret even the commonest of our perceptions.

More recent work by experimentalists who have found themselves unable to accept entirely the conclusions of Head would appear to show that the ability to perform such tests as those used by him depends, in part at least, upon the development of a power to think successfully about the shapes and the sizes of things, a power which begins to be acquired between the ages of nine and eleven.² But how far this power could have originated in the absence of language must remain doubtful. Can we, for example, imagine the idea named by the term *opposite* arising where the word or some equivalent is unknown? Can it be shown

¹ H. Head, *Aphasia and Kindred Disorders of Speech* (Cambridge University Press, 1926).

² C. Fox, in *British Journal of Psychology*, xxi, 242-255. Gordon and Norman, in *British Journal of Psychology*, xxiii, 20-41.

that the higher animals have any idea of what is meant by *opposite*? It is not unfair to say that the writers who have attempted to put Head right have hardly got to grips with him.

8. LANGUAGE AND GENERAL INTELLIGENCE

The facts of speech disorder certainly suggest that there is a connexion between linguistic ability and what is called general intelligence. Recent research along laboratory lines confirms the suggestion. In an experiment conducted by Warden¹ sixty persons were set blindfolded to learn to thread a maze with a stylus. The number of trials needed to achieve a faultless performance was recorded in each case. The subjects were then closely questioned as to the methods they had adopted. It was found that seventeen had relied mainly on the 'feel' of the route as it was gradually worked out by them; this predominantly kinæsthetic approach produced the faultless performance after 123.9 trials. Eighteen others relied almost entirely upon a visualized reconstruction of what they would have seen as they went along; these needed an average of 67.9 trials to achieve mastery. The remaining twenty-five verbalized the details of the route: *e.g.*, "right forward, three times; left forward, twice," and so on. The trials needed by this group averaged 30.2. The significance of these figures is clear enough. Here was a situation where the verbalizers were able to register their experience in a much more permanent and accessible form than the others could store them only through the medium of concrete images. In short, they were able to tackle their problem with greater efficiency.

Warden's experimental results indicate that linguistic ability and general intelligence overlap to a greater extent than many of us are ready to admit. They do not necessarily develop together, however, at the same rate. Though, for example, it is commonly accepted that a verbal intelligence test is the best test available for selecting children for academic education at the age of eleven plus, we cannot always be sure that justice is being done to children from homes where linguistic standards are low. Some years ago several thousands of Birmingham children who worked the author's Vocabulary Tests² were divided into two groups representing poor and comparatively well-to-do districts respectively. The results showed that at ten years of age the children from the latter districts were able to score an average of 50 per cent. more marks than their less fortunately placed fellows, but that as the age rose this advantage gradually slipped

¹ C. J. Warden, in *Journal of Experimental Psychology*, vii, 243-275.

² See Appendix II, pp. 267-279.

away, and at the age of fourteen there was little to choose between the two types of child. Judgments, therefore, as to the relative amounts of intelligence possessed by those who have been subjected to linguistic tests may be dangerous unless we can be sure that the tested persons have been brought up in similar environments and had the same kind of school training. Other things being equal, however, a person's mastery of language for general purposes is a reliable index to his intellectual powers.

A recent writer has given it as his opinion, based on his experience in the use of both verbal and non-verbal tests of reasoning ability,¹ that there is little difference in the power to solve (*a*) verbally presented problems and (*b*) problems presented in non-verbal terms before the age of 14½ years, but that after this age the ability for verbal and abstract reasoning shows a rapid advance. Though this does not mean, says our writer, that problems posed in non-verbal form cannot be dealt with just as adequately as ever by adults, it probably does mean that most adults come by habit or practice to prefer the verbal method of presentation.

9. THE PLACE OF LANGUAGE IN THE SYSTEMATIZATION OF EXPERIENCE

Are we to conclude from all this that the best form of education would be one which is mainly linguistic? Yes and no. Children need a rich variety of experience of all kinds if they are to make the most of their capacities, but to become fruitful in the highest sense their experience must be ordered and systematized, and here language is able to play an indispensable part with its apparatus for expressing differences—gross, moderate, and fine—in genera and species, in number, tense, direction, etc. Needless to say, this ordering and systematizing can best be effected through free and full discussion of all that has been seen, heard, suffered, and done. Only in this way will ideas become interwoven into patterns of greater power and complexity. Here the general and abstract terminology of language which comes to children only in the gradual approach to maturity plays its indispensable part.

In so far as general and abstract terms are employed by young children they are used at first almost entirely with specific reference to certain particular situations.² *Punctuality*, for example, means coming to school at a stated hour, *discipline* means being ready to obey definite rules on given occasions, *truth* means

¹ L. Brody, "Tests of Verbal and Non-verbal Reasoning," in *Journal of Educational Psychology*, March 1940.

² See p. 147.

saying precisely what you have seen or heard or done, and so on. In short, only as they bring to mind clear images (usually pictorial) of familiar forms of behaviour do general and abstract terms convey meaning to any but the brightest of young children.

This is not to say that general and abstract terms should be avoided by the teacher until they can be properly understood. In the field of conduct their rôle is all-important. It would be difficult, for instance, to say that we had any clear ideas of *good* or *evil* before we were introduced to them by name. What did any of us know of *truth* as opposed to *falsehood* before our parents urged us to respect it? What did any of us imagine was the difference between *pleasure* and *happiness*, between *pride* and *vanity*, and so on, before the existence of such pairs of words for related ideas suggested a difference between them? "Epictetus," says a modern writer, "made the discrimination of such words the foundation of moral training," and it is true enough that every stage of moral progress is indicated by the degree of our perception of the meaning of words and descriptive ideas not easily labelled with precision. "The clear vision of the ideal is knowledge, to be won only by hard thinking. In Socrates' practice this hard thinking took the form of attempts to define the essential meaning of the terms commonly used to describe right conduct."¹ And what is true of moral training is true also of intellectual and æsthetic training.

If, therefore, we wish to make any considerable progress in the attempt to find our way about the world of general and abstract ideas we must become masters of the language which has been devised for the purpose of describing them. We can decide, of course, to do without language, just as we can decide to do without aeroplanes, but progress with them both is faster and easier than without them. This does not mean that a knowledge of words is superior to a knowledge of things. There is a time for those who travel in aeroplanes to come down to solid earth. Or, to change the metaphor for one which William James once employed, "without abstract concepts to handle our perceptual particulars by, we are like men hopping on one foot. Using concepts (*which are expressible, as a rule, only in words*) we become bipedal."²

10. LINGUISTIC PITFALLS

But we must not blind ourselves to the fact that dangers lie in the path of those who do not realize the obvious limitations of language; for very often words, as Bacon says, "do mightily

¹ F. M. Cornford, *Before and After Socrates* (Cambridge University Press, 1932)

² *Popular Science Monthly*, vii. 485. Italicized clause added

entangle and pervert the judgment." Among these dangers three at least will be conspicuous to those who look for them: (a) either in ignorance or through inexperience we may mistake names for the realities they are meant to indicate—as, for example, when children say, "Think of a country beginning with G"; (b) we may suppose that entities corresponding to abstract terms—e.g., like *influenza*—are just as concrete and as material as *cats*; and (c) even when we avoid this danger we may still mistake our ability to achieve clear descriptions of some aspect of reality for a sure knowledge of it. The distinction already employed between knowledge by acquaintance and knowledge by description is a sound one, though those who have had any experience of examining the written work of students know only too well that skilfully worded answers contrived to produce the impression of knowledge where none exists are rarely penalized enough in comparison with the poorly expressed answers that have real knowledge behind them. Where text-books, the natural habitat of the abstract term, abound most, ignorance finds it easiest to disguise herself. Unless we are aware of this possibility we shall frequently be deceived by others; unless we frequently remind ourselves of it we shall often deceive ourselves. We may deceive ourselves when we frame clear descriptions of past experiences that were shadowy and well-nigh unseizable; and we may deceive ourselves in supposing that words always carry the same meaning for every one.

Thus, in spite of the almost miraculous development of language as an instrument of thought there are many directions in which it falls short. As there were more things in heaven and earth than were dreamt of in Horatio's philosophy, so there must have been many more which Horatio could have talked fairly intelligibly about, with gesture and the varied intonation of the voice to aid him, but which he could never have put into writing. Whitehead has said, too, that human life as a whole is "driven forward by its dim apprehension of notions too general for its existing language."¹ A recent American writer has spoken of this phenomenon as the *lag* of verbal organization. Of this lag Marlowe has written in *Tamburlaine the Great*:

If all the pens that poets ever held
Had fed the feeling of their masters' thoughts,
And every sweetness that inspired their hearts,
Their minds and muses on admired themes—
If all the heavenly quintessence they 'stil
From their immortal flowers of poesy
Wherein, as in a mirror, we perceive
The highest reaches of the human wit—

¹ A. N. Whitehead, *Adventures of Ideas* (Cambridge University Press, 1933).

If these had made one poem's period
And all combined in beauty's worthiness—
Yet should there hover in their restless heads
One thought, one grace, one wonder, at the least,
Which into words, no virtue can digest.

True enough, and yet if it were not for the poets and the philosophers, the evocation of the finer thoughts that lie beneath, above, and beyond our ordinary consciousness would be a rarer occurrence, and our experience all the poorer.

11. LINGUISTIC EDUCATION

If what we have so far said is true there are three things which it is important to remember about language: (1) it was originally devised for dealing with the homely particulars of everyday life; (2) only gradually has it been developed as a means of expressing ideas of greater generality; and (3) it seems for ever destined to fail us when we attempt to speak clearly of our deepest intuitions.

The facts being as they are, we may therefore expect normal children to acquire facility in dealing verbally with first-hand experience of the commoner phenomena of life. We can and should encourage them to speak and write vividly and interestingly about what they have seen and heard so as to reproduce its novelty and freshness. In this way they will manifest what are the main virtues of all language in young children. But we ought not to expect them always to understand and use language which deals with experience at second-hand. For this reason we should beware of employing terms of greater generality than those that are habitually in use among the children we teach. This kind of language is essential for the systematization of the discrete facts that confront us, but apart from them it has no meaning for the unsophisticated. As Whitehead says,¹ the success of language in conveying information in the absence of a background of direct experience may be easily overrated. "The general truth of Hume's doctrine as to the necessity of first-hand impressions is inexorable."

It is the task of great literature to suggest the nature of those intuitions which ordinary language will never succeed in fully expressing. To beauty in birds and flowers and young animals, to pathos in human frailties, and to nobility in human greatness children are susceptible at an early age, and they will respond to the language which adequately portrays these. Without constant reference to the things for which the poets alone have found words they cannot be expected to rise to their full stature.

¹ A. N. Whitehead, *op. cit.*

12. THE TEACHER'S TASK

As indicated in the preface, an effort has been made in the pages that follow to trace stages in the development of linguistic ability in various directions. Full account has been taken of the work already done by others, and on the basis of agreed results and in the belief that genetic sequence characterizes all forms of linguistic development an attempt to carry the subject further has been undertaken by means of tests specially devised for the purpose.

But it must always be remembered that the linguistic development of children can only be studied successfully when it is regarded as of a piece with mental development as a whole. To persons of simple faith it may seem that all we need do in order to ensure the linguistic progress of children is to supply them with a vocabulary and a stock of everyday phrases and sentence-forms, together with their dictionary meanings, and a few elementary instructions for their use. The desire of teachers to increase vocabulary in children is almost universal. The truth is, of course, that with a good many children this practice may not unfairly be likened to presenting them with a large assortment of parcels of varying value and interest which it is beyond their capacity either to pack together (supposing they wanted to do so) or, when packed for them, to carry. In other words, linguistic ability is not merely the ability to memorize words and phrases with a view to being able to reproduce them more or less mechanically upon the receipt of a given cue; it is the ability to make intelligent use of words for the purpose of defining our thoughts and feelings as clearly as possible to ourselves, and of expressing them, when necessary, as clearly as possible to others, in order to share our experiences with them, to bring about their intellectual enlightenment or to influence their behaviour. And this being so, no genuine enlargement of vocabulary can be secured except through an enlargement of the understanding, and equally no development of sensitivity in the use of language except through a general quickening, maturing, illuminating, and energizing of the mind in all its functions.

CHAPTER II

GROWTH IN VOCABULARY¹

I. TWO ASPECTS OF DEVELOPMENT

In studying the growth of children in the mastery of the vocabulary of English we may proceed in two ways: we may consider it as revealed in an increase in the number of words available for spoken or written use, or as a development in the range and quality of the words themselves. Nearly all the research so far done in the field of children's vocabularies has been of the former kind and has been centred in word-counts. This is why the number of words mastered at different ages is dealt with at greater length in this chapter than the adequacy of a vocabulary at any age for a given purpose.

Counting words,² however, yields evidence only indirectly of the degree to which a language has been learned. It would, indeed, be a poor sort of linguistic research which was based on the assumption that a child who wrote, for example, the sentence *He did not know which place he would have to go to in the end* has thereby shown by writing thirteen different words that he possessed a fuller vocabulary than another child who, by writing instead *His ultimate destination was uncertain*, had limited himself to five. It is clear, therefore, that vocabulary research will have to take into account to an increasing extent the range and quality of the words which children use, and this will mean that the attempt must be made to classify the kinds of words acquired at different ages and an account given of what is implied by the results of such classifications.

2. THE FIRST SIX MONTHS OF LIFE

Although there are indications in the writings of Pestalozzi and Froebel that a study of the language of children from the first months onward is of vital importance for a full understanding both of their own subsequent development and of human development generally, the serious study of the child's linguistic development originated as late as the second half of the

¹ By vocabulary is meant "the stock of words employed by an individual speaker, author, or class of persons, etc." Words dimly understood in reading but not well enough understood to be employed in speaking or writing are not part of a person's vocabulary by this definition.

² In word-counts we exclude all variations of the basic word from which they are formed—e.g., by the addition of -s (plurals), -ly (adverbs), -er and -est (comparatives), -n (adjectives and past participles), and -s, -d, -ed, and -ing (verb forms).

nineteenth century with the biographical studies of individual children which were undertaken by Darwin,¹ Preyer,² Sully,³ Shinn,⁴ and their imitators.⁵ These studies made it abundantly clear that there is purpose and meaning even in the baby's first babblings and cooings, and that the apparently aimless vocal activity of the first six months of life is an indispensable preliminary to the articulate speech which comes later.

Of the Romans it is said that "Vaticanus they knew, the god of the child's first cry; and Fabulinus, who watched over its first articulate word," but we have no evidence that either they or their successors up to the present century were aware of anything of linguistic significance happening in the interval between. Much does happen, however, as we shall see.

The first vocalizations of the baby appear to arise from bodily discomfort—in response, for example, to hunger, cold, and pain. These vocalizations are easily distinguished one from another in their significance by an intelligent mother. Before the baby is six months old, however, he has usually begun to find pleasure in making sounds for their own sake. Definite vocalization of the two or more sounds occurs at about the age of four months; the greater the variety of vocalization achieved at this early age the surer the promise of satisfactory linguistic development later. At the same time the baby seems to be able to express something of his feelings by means of suitable inflexion or intonation (as well as by the loud utterance of sounds), though so far, of course, without articulation. Thus, he may be observed to use a rising inflexion when surprised or pleased, and a falling inflexion when disappointed, the difference between the various emotional states being shown also by modifications of tempo and of degree in the rise or fall of the voice. All this would appear to be instinctive.

It has been said, though not every one would agree, that in the first six months practically all the sounds needed for articulate speech (and many others besides) are learned: the vowels first, and in pretty definite order; afterwards the consonants (beginning with the labials *p*, *b*, and *m* and passing on, first to *g* and *k*, then to *f* and *v*, and finally to *r* and *l*) and these by modifica-

¹ C. Darwin, *Biographical Sketch of an Infant* (London, Mind, 1877).

² W. Preyer, *The Mind of the Child* (New York, Appleton, 1890).

³ J. Sully, *Studies of Childhood* (London, Longmans, 1896).

⁴ M. W. Shinn, *Biography of a Baby* (Boston, Houghton, Mifflin Co., 1906).

⁵ The earliest history of our subject is hardly worth serious attention, e.g., that recounted by Herodotus (II, 2) of the attempt made by Psammetichus of Egypt to discover the original language of mankind by noting the first words used by certain babies deprived of the opportunity of hearing human speech. These babies were heard to say something like the sound *BI KOS*, the Phrygian word for 'bread,' and so the naïve conclusion was reached that Phrygian was the original language of mankind.

tion of the vowels through the use of the mouth and lips. In short, the age which was once thought to be almost wholly without significance for the student of children's linguistic development turns out to be as important as any other stage in the learning period. Vocal failure or even avoidable defect in the earliest months means a lack of flexibility in the use of the vocal organs later, and consequently a loss of the finer controls of speech, a defect which is never easily put right.

3. THE SECOND SIX MONTHS: THE FIRST WORD

During the second six months of life nearly every infant learns in his vocal play to utter at will such sounds as strike his fancy and are easily repeated. He emerges from the period of vocal grunts and emotional vocalization, and passes into the period that may be called symbolical vocalization, characterized by an awareness of his audience and an attempt to use his favourite sounds with well recognized kinds of expressive intonation. The same sound, that is, may be used to express different kinds of feeling. Certain duplications appear over and over again—for example, *ma-ma* and *da-da*. But to say *ma-ma* and *da-da* without having anything in the mind except the sounds themselves is not talking. In fact, it is not until the second year of life that genuine talking is usually begun. It is then that spoken sounds become closely enough associated with particular objects, situations, or activities to make it possible for the infant to react to these sounds as meanings and to use them as names. Before the first twelve months have ended, however, a single word or two may be clearly spoken by a child of average ability and intelligently used for a purpose of his own. Miss M. W. Shirley¹ gives the median age for the first word of twenty babies as 60 weeks, the interquartile range being from 47 to 66 weeks. It will be remembered, of course, that words are usually understood before the power develops for uttering them, so that to judge intelligence by the earliest performances in speech may be unwise.

Bateman,² an American investigator, discovered by taking a group of thirty-five rather exceptional children and watching them closely that the first word occurred on the average at ten months, and that some three-quarters of the children under observation were able to use a few words in a simple and rudimentary manner by the time they were a year old. It is generally agreed that girls as a rule begin to talk before boys, and that

¹ M. W. Shirley, *The First Two Years*, vol. ii (Minneapolis, University of Minnesota Press, 1933).

² W. G. Bateman, *Pedagogical Seminary*, 1917, XXIV, 391-398. See also M. W. Shirley, *op. cit.*, for further details of early vocabulary growth.

they maintain this superiority for some time afterwards. It is probable that they continue to excel in fluency and use of idiom after they grow up, but in precision it is not so evident that they are superior at any age.

From this point onward it becomes possible to make use of language as an objective measure of mental development, since it is pretty well agreed that linguistic development is a good index, though, of course, not a complete one, of the general powers of children in their earlier years. Reference to more than a few of the numerous inquiries which have been undertaken with a view to exploring the progress of children in speech by means of vocabulary counts, etc., is hardly possible here. A satisfactorily full bibliography is to be found in most books that deal specifically with the child's linguistic development during what is now called the "pre-school" period.¹ We must content ourselves with a brief discussion of the principal conclusions reached.

4. THE SECOND YEAR: THE NAMING ACTIVITY

As soon as the notion enters the infant's mind that things have names great interest and activity are displayed in the naming process. Names are said to have magical properties for primitive peoples, and it may be that little children, like primitive peoples, feel that to know the name of a thing is to acquire some sort of a hold over it; so that this may be the idea which is at the root of their eager curiosity about names. Certainly the infant's early cries for *ma-ma*, for food, and for his favourite toys must seem to have magical effects in producing what is cried for.

Until satisfactory articulation is achieved it would appear to be the natural thing for parents and nurses to make use of the infant's tendency to duplicate sounds by proceeding to invent easy names for things on the *ma-ma da-da* pattern. This is particularly so where the onomatopœic element, enabling them to provide what have been called *natural symbols*, is an additional help to the infant's memory. This must be why so many children are taught to speak of *bow-wows*, *baa-baas*, and *puff-puffs*, to say *ta-ta*, *bye-bye*, *tick-tock*, and so on.

From the age of eighteen months onward it is not unusual for intelligent children to invent names of their own for types or classes of things in circumstances where sometimes the adult may not at once see what the underlying principle of classification is. Thus, one boy known to the writer observed at sixteen months that certain things in his environment were sufficiently alike for

¹ See, for example, D. A. McCarthy, *The Language Development of the Pre-school Child* (Minneapolis, University of Minnesota Press, 1930).

his purpose to be conveniently referred to as *yo-yos* and that among the *yo-yos* there existed the sub-class of *go-gos*. The distinction was not at all clear to the grown-ups, and it was some time before *yo-yos* were discovered to be portable things with handles and *go-gos* portable things with both handles and lids. Another little girl of fifteen months made a practice of referring to any drinkable liquid as a *gaggle-gaggle*. A third boy of the same age always said *adden-adden* when he saw anything that he wanted.

These instances suggest that the use of duplicated sounds is largely a matter of natural impulse and that names formed of duplicated sounds as natural symbols do not have to be thrust on the child by adults. Stern¹ draws attention to the astonishing similarity of some of these duplicated sounds and natural symbols all over the world. He says, "A dog's name for children is not only *wau-wau* in German but in Russian as well, *oua-oua* in French, *waf-waf* in Dutch, and *wan-wan* in Japanese, and he might have added *bow-wow* in English."

Most sensible parents, of course, do not encourage their children to continue this baby-talk after clear articulation has become possible. Not all children like their parents to persist in using baby-talk after it has become unnecessary. Indeed, it is recorded of one small child who was told in a public place to look at the *bow-wow* that she replied, "Don't say *bow-wow*, Mother; people will think that you can't say *dog*."

5. LINGUISTIC INVENTION IN CHILDREN

It was not always believed that children at a very early age were capable of linguistic invention. The German psychologists, Wundt and Meumann, for instance, sought to explain the phenomena in other ways, but Jespersen has shown very convincingly by quotations from writers in different languages that linguistic invention is by no means a rare thing among little children.

As a matter of fact, there is little doubt that if the necessity arose children would invent language for themselves all over again. Numerous instances have been adduced of children inventing a language of their own. Here is a fresh instance. Two twin children before they could talk used to say *ee-ee* to each other whenever they observed an interesting change in their environment (*e.g.*, the appearance of their father's motor-car round the corner), and *aw-aw* when they desired an exchange of toys. This kind of linguistic invention became obviously unnecessary as soon as they found a ready-made language in use around

¹ W. Stern, *The Psychology of Early Childhood* (English translation) (London, Allen and Unwin, 1927).

them, so that their own did not develop past this very rudimentary stage.

It would be agreed more readily, perhaps, that children beginning to talk frequently apply old names to new uses—sometimes with quaint and happy results. Whether this is due to what is too readily called imagination (not the same thing as invention) or to a poverty of their linguistic resources may not be so easily settled. In the writer's opinion there is no necessity for a romantic explanation in the majority of instances. Occasionally, however, the novel effect produced is obviously due to accident rather than to design: as, for example, in the following cases where different children were heard to speak of shoes on the wrong feet as making the feet look *cross-eyed*, of a pen making thick lines by opening its *beak*, of the penguin who *stood up* sitting down, of the parrot with a lump of sugar in his claw as having a *hand* on one leg and a foot on the other, and so on. But the child who asked his nurse after a bath not to rub him but *blot* him and the child who spoke of an echo as the *shadow* of the sound were doing something more than just using words incompetently but still with unforeseen novelty of effect.

It should be noted, of course, that little children cannot be expected to use names with the same precision of reference as grown-ups. We cannot always determine in advance what associations a name shall have in the infant's mind. At first, *da-da* may mean any man rather than father; *dolly* may mean any kind of toy, while *dink* or its equivalent may mean, say, milk rather than drink in general. Stern quotes a good example from experience with his own children. They used to say *eins*, *zwei* (*one, two*) in time with their steps as they were out walking, and as a result the younger one of the children used subsequently to refer to a walk as an *einschen*. The child obviously associated *eins*, *zwei* with the rhythm of walking rather than with the idea of counting.

In any case, we must remember that when words are being learned by the infant they are usually associated at the outset with the particular things in reference to which they are heard or used. It is wrong to suppose that what is a general term for the adult is necessarily a general term for the infant. Only gradually do meanings approximate to those usual among adults. It is a part of the infant's education to discover the meanings which words have in the conversation of adults, to discover that some words must be used with a narrower and some with a wider reference than that to which they have hitherto been accustomed, and to feel, if only vaguely, that names may be arranged in an ascending hierarchy of generality.

6. PARTS OF SPEECH IN EARLY VOCABULARIES

As has been more than once observed, there is a marked preponderance of nouns in the infant's vocabulary. Stern,¹ for example, has expressed the opinion that, leaving aside interjections, all the words used at fifteen months are nouns, that at twenty months 78 per cent. of the words used are nouns and 22 per cent. verbs, and that at twenty-three months the respective proportions are 63 per cent. nouns, 23 per cent. verbs, and 24 per cent. other parts of speech. Other observers have calculated that at two years of age there may be from 50 to 60 per cent. of nouns in the total number of words employed. One reason for this preponderance of nouns must be that parents and nurses are more apt to draw the infant's attention at first to those features of the environment which are static or material, since these are more easily distinguished and more easily identified afterwards and named as the same things. It is true, of course, that parents and nurses do not speak in terms of nouns and nothing else. But while the infant is learning to speak, one thing at a time, and that some material thing, is as much, as a rule, as he can attend to in the external world; so that when he hears the words, say, "Look, Johnnie. There's a bus going by," his attention is likely to be fixed on the concrete thing called *bus* rather than upon the more abstract idea of *going by*. We should add, perhaps, that it is not always clear that investigators have realized that no such words exist in English, as in Latin, as nouns in their own right. *Bath* and *hammer*, for example, may look like nouns to the unsophisticated student and may be classified as such, but the child may use them, singly, to mean *bath me*, or I want to *hammer it*, in which case one ought to classify them as verbs.

Reasons might be given for believing that here the infant takes the same course as has been followed by the human race generally, who in their many languages have usually not developed their verbs until their nouns have become established. Certainly the infant does not begin to use the verb in its various forms before he has shown an understanding of his nouns. It is on this account that he sticks to his single-word type of utterance for so long. While the verb idea remains unguessed at, nouns have to function alone as full sentences. The exclamation, *Ball!* for example, will have to mean not only *I want my ball* but also, as the occasion may require, *Come and play ball with me* or even *Take this beastly ball out of my way*. The quickness with which the infant grasps the possibility of expressing the idea of change, desired or resented, by the addition of a verb (or some part of

¹ W. Stern, *op cit.* p. 16.

it) to a noun is usually an indication of the quality of his intelligence. Not that he will know at this stage, of course, that such ideas have grammatical names, or that grammar itself exists. On the other hand, backward peoples and backward children are slow in taking this elementary step forward of finding and using a class of word to denote the process of change, so that they do not make anything like the same progress towards the mastery of their mother tongue.

7. NOUNS, VERBS, AND ADJECTIVES

Exactly what a name may convey to a young child is often a matter of some doubt. Most nouns, for instance, are usually held to be class-names, but three things need to be borne in mind in studying the use of class-names by young children. In the first place, not every word which has a general reference for the adult has necessarily a general reference also for the infant beginning to speak—for example, the names *dolly*, *kitty*, and *teddy*, where one example only of each of these things exists in the environment, may be entirely particular in their reference, and therefore at the outset are used as proper nouns. Secondly, many class-names are used for a long time by little children with the vaguest appreciation of their full significance; thus, one of Professor Valentine's children, at 2 years 6 months, allowed a toy cat and a toy dog to be animals when taken together with other toy animals but refused to speak of them singly as animals—they were just *pussy* and *Fluffy*.¹ In the third place, we must remember that children have no use for a great many of the class-names which adults find indispensable.

It is possible, then, that all nouns may originally be proper nouns in the experience of the infant, associated, that is, with particular objects, persons, or places which have a distinctive interest and value for him. In the environment of every infant, however, objects exist which resemble one another in some one outstanding characteristic, such as *chairs*, *windows*, *cups*, *spoons*, and *flowers*, and it is easy to understand that the names for these objects are likely to become class-names sooner than the names for things like *pianos* or *clocks*, where only one of each of these may be at hand. Words like *mother* and *daddy* are in another category. The name *mother* has a particular and intimately personal meaning for every little child; there is only one mother in his world for quite a long time, whereas, since the father, as a rule, plays a relatively minor part in the early life of the infant, *daddy* would appear at first to be a class-name for any man who

¹ C. W. Valentine, *The Psychology of Early Childhood* (London, Methuen, 1942).

happens to be within range of vision. Thus, in one case, the particular reference of the word has to be learned, and in the other, the general reference. *Daddy* is probably a class-name before it becomes a definitely particular name; *mother* is a particular name before it becomes a class-name.

We ought, perhaps, to add that it is dangerous to use any of the common grammatical categories as though they applied equally to adult and to children's language. There are no nouns common, proper, or abstract in their own right. All depends on how they are used. A word like *permission* may be used as part of a particular formula by a child, as by one of Professor Valentine's children at five ("Mummy gave me permission"), but we could only say that such a word is an abstract noun for a child if he could employ it in a variety of different circumstances, each emphasizing the concept named.

Miss McCarthy quotes Drever as saying that in the growth of children's vocabularies, "environment affects the nouns, interest affects the verbs, and mental grip is shown by pronouns, adverbs, prepositions, and conjunctions."¹ She goes on to say that the evidence which she has carefully collected does not prove this statement to be true. She suggests that if Drever is right the vocabularies of children whose parents belong to the higher occupational groups ought to be proportionately richer in nouns. At first sight Miss McCarthy's statistics, as, for instance, they are set out in the following table, may seem to support her.

PERCENTAGES OF THE VARIOUS PARTS OF SPEECH IN THE TOTAL NUMBER OF WORDS USED BY CHILDREN (4 TO 4½ YEARS OLD) OF PARENTS IN (a) THE UPPER OCCUPATIONAL AND (b) THE LOWER OCCUPATIONAL GROUPS

PARTS OF SPEECH	(a)	(b)
Nouns	18.8	21.3
Verbs	25.9	24.7
Pronouns	22.2	19.0
Adjectives	14.1	16.1
Adverbs	7.2	5.5
Prepositions	6.8	7.1
Conjunctions	3.3	4.3
Interjections	0.9	1.1
Miscellaneous	0.7	0.8

Such a table as this, however, gives no indication of the variety of words at command in each of the different parts of speech employed, and it therefore proves very little. The vocabularies of the children of the higher occupational groups are

¹ D. A. McCarthy, *op cit.*, p. 20.

not richer in nouns, proportionately, because of the increase going on at the same time in certain other parts of speech, an increase which is clear evidence of greater linguistic activity. All that Drever means is that if you want to increase the number of nouns which a child can use the best way to do it is through an enrichment of his material environment, while the surest way of enlarging his stock of verbs is by extending his practical interests. It must be assumed, of course, that all the time there will be some one at hand to supply the language needed to do justice to each fresh experience as it arrives. Roughly, it is true that a rich and varied environment favours the acquirement of nouns, that interesting activities favour that of verbs, and that the rate at which the other parts of speech are acquired, particularly adjectives and adverbs, the acquirement of which presupposes a power of abstraction, depends more upon the degree of native intelligence and the rate of its maturation than upon the quality of the environment or the number of vital interests.

8. PRONOUNS AND PREPOSITIONS

The part played by maturation in the mastery of pronouns and prepositions is important, as will be seen from the fact that no amount of teaching will effect the same result where the child is not ready for it. Thus, it is rare to find pronouns used correctly by a child below the age of two. At this age the pronouns *I*, *me*, and *you* begin to be differentiated, though there is frequent confusion between *I* and *me*. Gesell¹ suggests that the ability to use two pronouns correctly means that the mental age of two has been reached, that three used correctly indicates a mental age of three, and that four or five used correctly is a sign that a mental age of at least four has been reached. From data gathered from the language of fifty children of two years of age Muntz² found that 48 per cent. of the children were able to use *I*, *me*, and *you* correctly while 38 per cent. used none of them. As may perhaps be expected, *my* and *mine* are the first possessives used.

Plurals and past tenses begin to be used at the same age as pronouns, though many children appear to have great difficulty with them until the age of three has been reached. Muntz found that 54 per cent. of his subjects at two were unable to use either plurals or past tenses correctly, and that 10 per cent. only could use just one of each. It should be remembered, nevertheless, that though the correct use of pronouns cannot be secured by instruc-

¹ A. Gesell, *The Mental Growth of the Pre-school Child* (New York, the Macmillan Company, 1925).

² See p. 199 in *The First Two Years of Life*, by A. Gesell (London, Methuen, 1941).

tion before the child is ready to profit thereby, it may be considerably delayed by parents or nurses who talk baby-language to their charges.

The prepositions that denote position in space are also learned as a result of maturation and experience. The infant does not at first understand what is meant by such prepositions if his mental age is much less than four, as may be seen when he is asked to make a drawing to illustrate a nursery rhyme or fairy-tale—*e.g.*, of the cow jumping over the moon, or the little mouse under the chair. The duller children in the lowest classes of our infant schools are usually eager to make such drawings, but it is by accident rather than design that they give a precise rendering of *over* and *under*.

From what we have said it would seem that the genetic order of appearance of the various parts of speech is roughly as follows: (1) proper names—*e.g.*, *ma-ma*, *dolly*; (2) common nouns for classes of similar thing—*e.g.*, *chair*, *bed*, *cup*, *ball*; (3) simple connecting words—*e.g.*, *and*, *but*, *so*; (4) verbs and verbal forms for naming picturable occurrences—*e.g.*, *push*, *drink*; (5) prepositions and simple relational words—*e.g.*, *in*, *on*, *under*; (6) pronouns; (7) adjectives for naming qualities by which objects can be identified or distinguished—*e.g.*, *red* (*ball*), *tall* (*man*); (8) abstract nouns of increasingly higher level—*e.g.*, (a) 'tied'—*square*, *weight*; (b) 'free'—*numbers*; (9) *adverbs*.

To arrange words in logical order, however, from particular to general and from concrete to abstract is not always to indicate the psychological order of their acquisition—*e.g.*, wood is learned before *oak* or *fir* and *stone* before *granite* or *limestone*. But leaving aside words of this kind and words used to express feeling or excite attention, the first words learned must obviously be the names of single and particular things.

9. GESTURE LANGUAGE IN EARLY LIFE

It is hardly necessary to say, in view of what has already been said, that some social and educational environments are more favourable to speech development than are others. Those teachers who work in slum districts know only too well that a few nouns eked out by a few gestures can be made to describe or explain a great deal, and that to get children to make the effort to speak with greater fluency and precision is by no means a simple task. The appropriate verb, in particular, appears to be less easily acquired in a poor linguistic environment than most nouns. If we listen to the conversation of a group of uneducated persons we may notice that they are least precise where their verbs are

concerned. In a world where we are often pressed for time and looked to constantly for sympathy we are apt to take a meaning for granted when not always adequately expressed: "You know what I mean" is a frequent locution among us. Therefore, the parent or the teacher who is really interested in the linguistic progress of children would do well, occasionally, to misunderstand what is said, and misunderstand deliberately though good-humouredly when he is sure that a little extra effort would make the young speaker's meaning very much clearer both to himself and to others.

Naturally, in any community where practically everything that needs to be talked about can be pointed at speech is almost superfluous, but even among civilized peoples to-day gestures are frequently resorted to when words could readily be found to take their place. Yet, when we cannot find words at once, we know, perhaps, that we shall be able to convey some sort of a meaning by shrugging our shoulders, raising our eyebrows, by pouting, scowling, or using our hands, and that when it is impossible to converse with some one within hearing we may do a great deal by gesticulation. And not only is gesture employed when overt speech is inconvenient or difficult, but it is too often encouraged when shyness or diffidence (particularly in children) leads to some form of gesturc-expression, since a readiness can be counted upon on the part of others to anticipate or at least interpret what it is that ought to be said. The fact, then, that others are usually able to gather our meaning when we make use of a substitute for articulate speech results in much of our ordinary speech becoming superfluous. When the child's mute appeals are too readily interpreted the conditions for the development of good speech are unfavourable. One reason for the existence of such conventions as that it is 'rude to point' may be that there is felt to be a better way that must be encouraged, though it must be confessed that adults of the 'rude to point' school are apt to show very little sympathy with children in their difficulties of expression. The sympathetic encouragement of articulate speech is, on the other hand, most important, since many of the more desirable forms of social intercourse are clearly rendered impossible if articulate speech is not cultivated.

10. NURSERY RHYMES AND FAIRY-TALES

In passing, we may, perhaps, draw attention to the valuable part played by nursery rhymes in the linguistic education of infants. Not many parents or nurses could fail to recall the words of, say, forty of the shortest and commonest nursery rhymes, but

in any forty there will usually be found at least four hundred different words. These will suffice to introduce the child to a world of great interest and to a wealth of knowledge about it—to a large variety of *natural objects* and their *colours*, to the chief parts of the *body*, the *days* of the week, to the main parts of the *house*, to most *garments*, *tools*, and the *actions* done with them, to the *trades* and *occupations* of the countryside, to a goodly number of domestic and wild *animals*, to all the *numbers* of fundamental importance for him, and to a good many *foods* and *drinks*. Add to the nursery rhymes some of the traditional stories familiar to all of us, and an incalculably wide introduction to stimulating and useful material is provided. Certainly, no child is ready for formal instruction (*e.g.*, instruction in reading) who has not somehow gained this indispensable background of experience. One defect of the traditional rhymes and stories, of course, is that these now mean less to the majority of English children, because of their urban upbringing, than to country children, but it is possible that what we cannot directly experience for ourselves at first hand may still affect us powerfully. The infant in the railway carriage who keeps asking, as various objects and animals come into view, such questions as "Is that a *cow*?" or "Is that a *mountain*?" shows by his behaviour how much the stories he has heard must have meant to him. These names have remained over, and the desire for their elucidation has not left him. Clearly we may profit as much by what we go out to seek as by what comes to us unsought.

II. LANGUAGE AND PRACTICAL ACTIVITY

The tendency to integrate the various forms of experience is a fundamental characteristic of the higher animals. The simultaneous reports from the different organs—touch, smell, taste, hearing, sight—and the movements of joints and muscles gradually come to be interpreted as referring to the same source and origin. In the earliest months the infant learns to build up a single world of space from the separate worlds of touch and sight, which at first are not presented to him as a unity. Once the elementary stage of interpreting sense-data satisfactorily and co-ordinating effective response to them has been achieved language becomes the all-important factor in mental development. The verbalization of what the child has observed happen and of what he wishes to, or fears may, happen, is the basis on which every kind of experience can be discussed, ordered, and rendered serviceable in the interests of further mental growth and personal fulfilment.

44 LANGUAGE AND MENTAL DEVELOPMENT OF CHILDREN

It follows that a useful form which language work may take in schools in the early years is training in the oral description of what has been or is being done in the immediate environment. As the infant grows older he gains experience in a variety of ways, and his mind grows with his experiences. But we are too often content with a one-sided type of development—*e.g.*, in the child's seeing without thinking, doing without talking, hearing without listening, and so on. Yet nothing at this early age is better calculated to knit together for their mutual benefit the linguistic and practical powers of the child (which must function together in the closest intimacy if all-round progress is to be secured) than the habit of discussing what is done or experienced. To take a simple example, let us suppose that a child is trying to thread a needle. It is important that he should learn to thread a needle; it is important that at some time or other he should be able to say how he does it. The teacher might, therefore, remark as part of her English lesson one day, "Come here, Johnny I wonder whether you can tell me what you do when you thread a needle. Here—take this needle and thread, and tell me as you go along." One might expect that Johnny would be able to say something like this—though heaven forbid that he should be solemnly exercised in this kind of task!—"I take the needle and hold it up in my left hand. I pick up the thread in my right hand and squeeze the ends together to make them come to a point. Now I try to make this point pass through the eye of the needle. I can't do it, because the ends have come apart. I make another point for the thread. See, it passes through the eye quite easily. Now I have threaded my needle." In senior schools scores of children will be found who would fail to pass this type of English test. We know that to talk about things not present to the senses is very difficult for some children. The indispensable first step towards mastery in this sphere is to gain the power of describing or explaining what is before one's eyes, and this can only be done when the names of the things one sees and the processes they are made to undergo are learned as they exist in one's presence. To free children from a slavish dependence upon gesture when describing or explaining what is before them is a great achievement in a world that abounds in semi-articulate people who can only talk vividly and with precision about what they have been doing if it is still there to be pointed at.

12. VOCABULARY SCALES

Several attempts have been made to construct scales which would enable us to say at once at what point in his linguistic

development a child has arrived. All the commoner intelligence tests, as is well known, contain linguistic items. The scale constructed specifically for the measurement of linguistic development which is, perhaps, best known is that of Mlle Descœudres,¹ but even her scale may be criticized as giving us a measure of general intelligence rather than of language ability pure and simple. If we wish, for example, to discriminate among children in terms of their intelligence we may ask them questions which will show how much they have observed of the world common to them all, and we assume that the more they have noticed the more intelligent they will be. If we wish to discriminate among them in terms of their linguistic ability we may ask them questions with a view to discovering how far they can talk sensibly about what they must all have observed. The distinction is, perhaps, a fine one, but Mlle Descœudres has not made it.

Gesell's scale² for the measurement of the all-round development of infants up to the age of five contains a section on language which is as useful as anything to be found on this subject. We may therefore set out briefly, with the aid of Descœudres, Gesell, and others, what roughly may be taken as indications of satisfactory vocabulary development in the early years.

EARLY VOCABULARY DEVELOPMENT

AGE	FORM AND CONTENT
Six months.	The child vocalizes with intonation
Twelve months and onward	The child uses one or more words with meaning— <i>e.g.</i> , <i>mama</i> , <i>dada</i> . He understands very simple verbal instructions or commands if accompanied by characteristic gestures or intonation. He still indulges in jargon.
Eighteen months and onward	The child uses four or five words in all and uses two words together— <i>e.g.</i> , <i>milk-gone</i> .
Two years and onward.	The child is able to name four or five common objects shown to him— <i>e.g.</i> , <i>key</i> , <i>watch</i> , <i>knife</i> , <i>penny</i> , <i>pencil</i> ; he can use two prepositions— <i>e.g.</i> , <i>in</i> and <i>on</i> , or <i>under</i> .
Three years and onward.	The child can use the pronouns <i>I</i> , <i>you</i> , and <i>me</i> correctly; he can use plurals, past tenses, and comparatives; he knows three prepositions— <i>e.g.</i> , distinguishes <i>in</i> , <i>under</i> , and <i>behind</i> . He knows the chief parts of his body by name.
Four years and onward.	The child knows the names of the commoner colours; he can use four prepositions; he is able to say what familiar animals can do— <i>e.g.</i> , <i>cat</i> , <i>hen</i> , <i>dog</i> , <i>fish</i> ; names common objects in pictures. He can repeat three digits after hearing them spoken.

¹ A. Descœudres, *Le Développement de l'enfant de deux à sept ans* (Neuchâtel et Paris, Delachaux, 1921).

² A. Gesell, *The Mental Growth of the Pre-school Child* (New York, the Macmillan Company, 1925).

Five years.

The child can use descriptive words spontaneously. He knows the commonest opposites—e.g., *big, little; hard, soft; heavy, light*, etc. He knows when to say *please* and *thank you*. He can count up to *ten* and name two or three coins.

Not a great deal has been done in this country, however, to standardize any such scale as the above, so that it must be taken as tentative.

13. MEASURING VOCABULARY: THE DIRECT METHOD

A great deal of research in recent years, however, has been directed towards elucidating the rate at which children normally acquire their vocabularies. A certain amount of obscurity must always overhang the question as long as there is uncertainty about the method which should be employed in counting the different words. For example, what are we to do with the word *light* in the following sentences: *Light the fire, This loaf seems light, and Put this where his eyes will light upon it?* Are we to count it as one word or three? Most readers would probably say that here we have three different words, but Thorndike in his *Teacher's Word Book*, to which we shall refer later, treats *light* in all its uses as one word. The point is not important where the investigator is consistent and makes it clear to the reader how he has proceeded in his word-counts, but confusion is apt to arise when results obtained by investigators using different methods are being compared. If, for example, we learn that a vocabulary consists of, say, ten thousand words we ought to know whether, for example, the three *lights* above plus *lights* as a plural noun, and the verbal forms *lights, lighted, and lighting*, are to be treated as six words or four words or one.¹

The practical difficulty of counting vocabularies in the case of children remains. When a child is living in intimate contact with an interested adult it is not difficult to record practically every fresh word that occurs. But as soon as the child begins to live a considerable stretch of his life apart from the person who wishes to keep a record of his linguistic progress the task becomes increasingly difficult. In such circumstances we have no other alternative but to resort to sampling. This means that to make a complete estimate of the size of the total vocabulary we must multiply the figure obtained in sampling by some hypothetical figure. It will be realized at once that any error made in the

¹ From the teacher's point of view, of course, *bear* (= animal) and *bear* (= tolerate) are two words, not one. The *New English Dictionary* has sixty-four meanings for *give*

sampling will be enormously increased by such multiplication, while any error in the choice of the multiplier itself will equally be reflected in an unduly swollen or contracted final estimate. For example, it may be argued that a child who can use 30 per cent. of the words that occur first on the pages of a 10,000-word dictionary will probably know 30 per cent. of them all—i.e.,

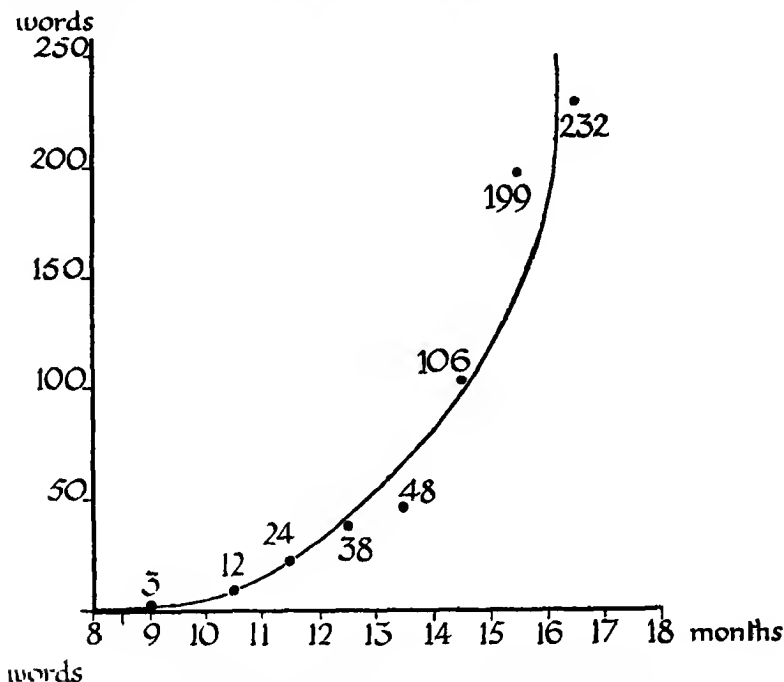


FIG. 1 VOCABULARY GROWTH-CURVE. FIRST STAGE (a)

3000 altogether. But we cannot be so sure that a child who knows 30 out of 100 words of a special class in a 10,000-word dictionary knows not only 30 per cent. of the words in the 10,000-word dictionary but also 30 per cent. of the words in a 20,000-word dictionary. What is to be remembered, therefore, is that estimates of the size of vocabularies of children who have left the nursery are at best approximate and may be anything up to 10 per cent., or even more, above or below the true figure.

Before going on to consider the results obtainable by the sampling method let us examine two curves of development for the period during which a fairly complete record is possible. The first curve (Fig. 1) is constructed from the data given by Mrs Hall,¹ who recorded the words used by her baby as she heard

¹ See *Child Study Monthly*, March 1897.

them spoken. The second (Fig. 2) is from the record made by a colleague of the writer, without, I may say, any idea that the results would ever be expressed graphically. It will be seen that the curves are similar to those obtained for other varieties of growth phenomena. It will be seen later that in the early stages figures obtained from the investigation of the vocabularies

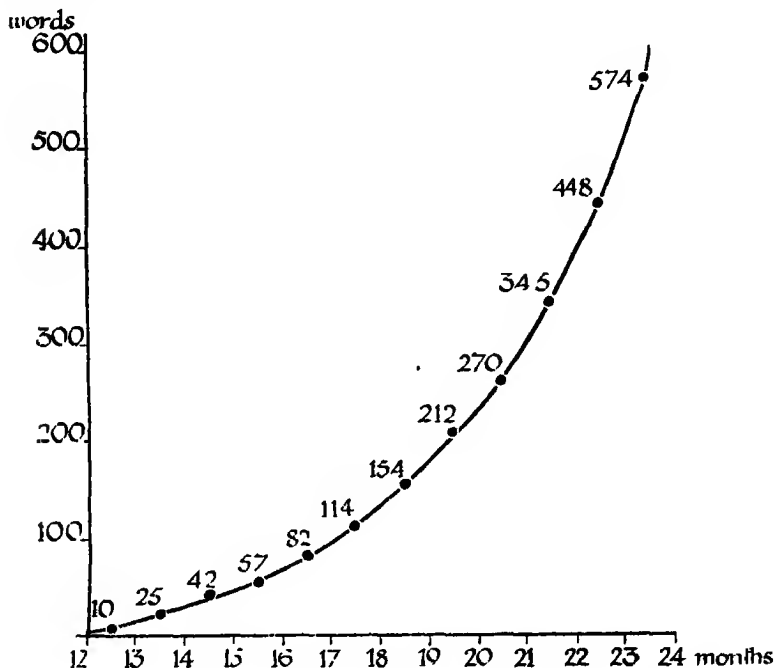


FIG. 2. VOCABULARY GROWTH-CURVE: FIRST STAGE (b)

of older children show as a rule increases that approximate, when expressed graphically, more closely to straight-line development.

14. MEASURING VOCABULARY: THE SAMPLING METHOD

As already stated, we have no option but to adopt some kind of sampling method for estimating the size of a vocabulary after children have reached the kindergarten age. Sampling may be done in various ways. Perhaps the commonest method is to take pages from a dictionary (*e.g.*, every tenth or twentieth page) and find out how many words on these pages can be used in at least one sense. One might also take the first and last word, or both, on every page as the sample. We may assume, then, that the

proportion of words known in the complete dictionary approximates to that for the sample. Dr J. H. Jagger has published some estimates based on this method of sampling.¹ He has found, to judge by his figures, that the rate of increase in the number of fresh words acquired during the kindergarten age is in the neighbourhood of 800 words a year. This result may be compared with that of Miss M. E. Smith,² an American worker in this field, who has estimated that the rate of increase between the ages of three and six is from 500 to 600 words a year. Miss Nice, another American worker, has given figures which suggest varying rates of increase as between dull and bright children.³

The present writer has made estimates by two different methods. The first was to employ a simple vocabulary test of the hundred questions⁴ the answers to all of which should be known by an average child of eight and a half—that is, by the time English children have left the infants' school and passed through what used to be called the "first standard." Typical questions are those in which the questioner asks what he is touching when putting his finger on his *nose, eyes, eyebrows, eyelids*, etc. Since the hundred words which have to be supplied by way of answers to the questions asked would be found fairly evenly spread through a list of the six thousand commonest English words, it would seem legitimate to argue that the probable size of the vocabulary of a child tested is sixty times the number of right answers. The objection which may be raised is that there will probably be many other words known which are not in the list of the commonest 6000. The estimate derived from this kind of test is, therefore, probably only correct within limits (say 10 per cent.).

The answer-words demanded in this test have been checked by the *Teacher's Word Book*.⁵ Allowing for the fact that this book is an American publication and does not therefore give full weight to peculiarly English terms (*e.g.*, weights, measures, coins, etc.), it may be said that roughly one-sixth of each of the names required for the test are to be found in the first, second, third, fourth, fifth, and sixth (plus) thousands, respectively, of Thorndike's list. The results of using the test are shown graphically on the next page.

A second method employed by the present writer was to collect from children over a period of about a month the names of foods

¹ J. H. Jagger, *The Sentence Method of Teaching Reading* (London, 1929).

² M. E. Smith, *An Investigation of the Development of the Sentence and the Extent of Vocabulary in Young Children* (University of Iowa, 1926).

³ M. M. Nice, "On the Size of Vocabularies," *American Speech*, 1926, 2, 1-7.

⁴ See Appendix No II, I (6), p. 280.

⁵ E. L. Thorndike, *The Teacher's Word Book* (New York, Columbia University Press, 1927).

and drinks which they knew. It was found that there were roughly some 350 of such words in a very good small school dictionary of about 14,000 words altogether. It was calculated,

Per Cent.

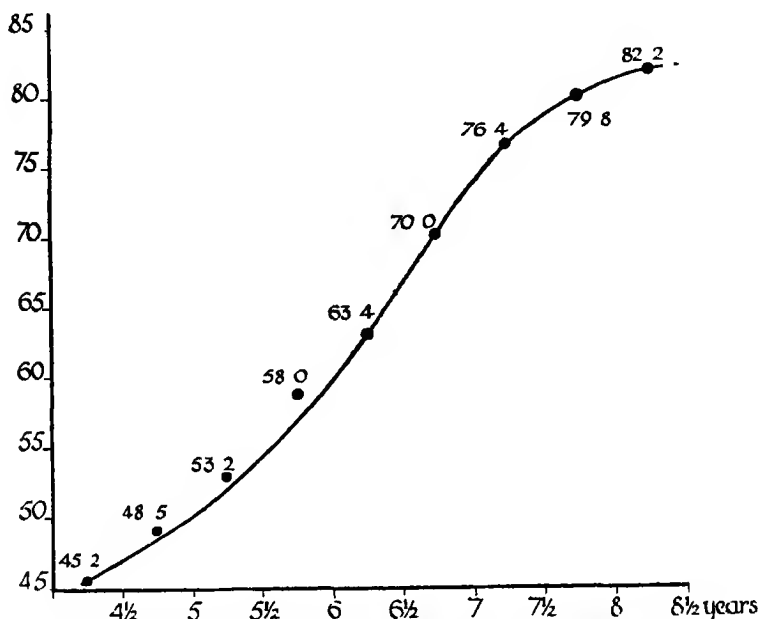


FIG. 3. GRAPH SHOWING PERCENTAGES OF RIGHT ANSWERS IN THE VOCABULARY TEST FOR YOUNG CHILDREN

NOTES

1. The percentages correspond to total vocabularies as follows

AGE (years)	4.25	4.75	5.25	5.75	6.25	6.75	7.25	7.75	8.25
SCORE	45.2	48.5	53.2	58.0	63.4	70.0	76.4	79.8	82.2
1% SMALL VOCABULARY	2712	2910	3192	3480	3804	4200	4591	4932	

2. Owing to the nature of the test the numbers at the extreme ends are insufficiently spread and are probably too large and too small.

3. The range of scores at 6 to 6½ was as follows

PERCENTAGE	90-85	85-80	80-75	75-70	70-65	65-60	60-55	55-50	50-45	45-40	40-35
NO. OF CASES	1	5	8	12	13	10	9	4	2	1	1

This corresponds roughly to a spread of from 2300 to 5300 words in the total vocabulary

therefore, that the size of a given child's vocabulary might be forty (i.e., 14,000 divided by 350 = 40) times the number of food and drink names known. Since we are dealing with nouns

only, the estimate will naturally be subject to the ordinary errors of sampling. A comparison of the estimates obtained from these two methods employed by the present writer and those of Smith and Jagger are here given:

AGE	SMITH	WATTS (1) (FOODS AND DRINKS)	WATTS (2) (100 WORDS)	JAGGER
<i>Years and Months</i>				
3-6-3-11	1222			
4-0-4-5	1540	1760	2712	
4-6-4-11	1870	2080	2910	
5-0-5-5	2072	2560	3192	2554
5-6-5-11	2289	3253	3480	
6-0-6-5	2562	3776	3804	3372
6-6-6-11		4120	4200	
7-0-7-5		4437	4584	4039
7-6-7-11		4860	4788	

From the above table it would seem safe to assume that the average child who enters the English infant school at five years of age comes in with a vocabulary of at least two thousand words and leaves it at seven plus with this number doubled.

15. THE SIZE OF THE AVERAGE CHILD'S VOCABULARY

To sum up, therefore, we may assume: (1) that the average child enters the public elementary school at five plus with a vocabulary of at least 2000 words (ample for any educational adventure with an intelligent teacher); (2) that at seven plus, when he is ready to transfer to a junior school, this number will have increased to at least 4000 words; and (3) that there is an increase of about seven hundred words a year during the period of compulsory schooling, so that a child leaving at fourteen plus should be in possession of some 8000 to 10,000 words. This estimate may be compared with Terman's estimate¹ of 9000 words for the average child of fourteen years of age.

Such estimates as these may come as a surprise to those who have made no attempt to estimate the size of a child's vocabulary. Of some two hundred teachers asked by the writer to supply estimates on the spur of the moment at a lecture, over half fixed the vocabulary of the average five-year old at less than 200 words, and over two-thirds at less than 300 words. Over half of the same teachers estimated the child of seven plus to have less than 700 words, while over two-thirds of them fixed the number for this

¹ L. M. Terman, *The Measurement of Intelligence* (London, Harrap, 1923).

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age at less than 1000 words. The various estimates given are shown below.

NO OF WORDS IN THE AVERAGE VOCABULARY	NO OF ESTIMATES OF VOCABULARIES WITHIN THESE LIMITS	
	Age 5-6	Age 6-7
0-24	13	—
25-49	15	5
50-99	40	1
100-199	53	23
200-299	44	23
300-399	29	30
400-499	72	18
500-599	17	18
600-699	2	17
700-799	3	13
800-899	2	12
900-999	2	16
1000-1499	1	19
1500-1999	2	9
2000-2999	—	13
3000-3999	—	7
4000-4999	—	2
5000-5999	—	3
6000 and over	—	1

These estimates may be compared with the author's: 2000
at age 5-6, and 4000 at age 6-7

Median estimate 175 words at 5-6 years
Median estimate 750 words at 6-7 years

16. RANGE AND BALANCE IN VOCABULARY

The critical reader will not think that the larger the number of words at the command of a person the greater his powers of verbal expression. It is not mere size of vocabulary that gives linguistic power. As Jeremy Bentham once observed, a copiousness of words in some directions may exist side by side with a scantiness in others. This is certainly true of the vocabularies of children and unsophisticated adults. The words which a young child has at his disposal for the purposes of communication are for the most part those which can be employed for naming and describing what is open to direct observation; words, however, to name and describe what is a matter of inference or what is in the nature of things remote, general, and abstract are usually few. If, for example, we compare the vocabularies of some of the simpler nursery rhymes popular among children with the language of a book for educated adults we shall find that, whereas

the former abound in names for picturable things and events experienced at the level of everyday perception, the latter will probably contain far more general statements of the sort which lack the element of picturability.

The words of a well-developed language, indeed, may be arranged in a hierarchy—in ascending levels, that is, of increasing generality, with those that serve as labels for concrete particular things at the lowest level and those that have reference to the most universal and abstract of concepts at the highest.¹ Viewed in this kind of perspective, the progress of children will be seen to be a progress in acquiring a full and well-balanced vocabulary which lacks neither words for denoting what is particular and concrete nor words for talking and writing adequately about the conceptual and the abstract. It is by conversation with intelligent persons about what is experienced through the senses, through reading and subsequent discussion of what has been read, that children acquire this full and well-balanced vocabulary, and it is towards the end of their junior school careers that they begin to show signs of maturing in this direction. A well-taught group of intelligent junior school children, for example, of the ten plus age-group, who were encouraged to write on one occasion about the war-time black-out used in plenty such non-picturable ideas as are expressed by the nouns *precaution*, *obstacles*, *nuisance*, *prevention*, and *opinion*, the verbs *arrange*, *prepare*, *affect*, *bother*, *attend to*, and *happen*, the adjectives *liable*, *dangerous*, *private*, *careless*, and *necessary*, and so on. There are many ways in which the intellectual growth of young children may be estimated, but not the least useful or significant indications of this growth are to be found in their increasing mastery of the general statement by which they show their grasp of the wider significance of what they see and hear.

17. THE DEVELOPMENT OF THE MASTERY OF A BALANCED VOCABULARY

The mastery of the language of the general statement depends, then, on the development of intellectual power which itself is a product of the maturing intelligence. The scores obtained by the

¹ It is interesting to note that the language of the more primitive peoples is usually lacking in general terms. Even Basque is said to have no abstract words. The Eskimos have names for stones of various kinds but no general word for all stones, words for iron, copper, etc., but no general word for metal, words for various colours but no name for the common feature of different colours. Renan once remarked that a people usually have many words for what interests them, and, of course, it is the concrete particular that interests them. "In Arabic the lion has five hundred names, the camel 574, the sword one thousand. The Lapp, whose language is so poor, has more than thirty to designate the reindeer, the animal indispensable to his life." (Quoted by Ribot in *The Evolution of General Ideas*, Open Court Co., 1899.)

present writer in the use of his *Vocabulary Tests*¹ show this clearly enough. These tests demand a knowledge of five hundred common words arranged in sets of one hundred: Test 1—100 common names; Test 2—100 class names; Test 3—100 common verbs; Test 4—100 common adjectives descriptive of things; Test 5—100 common adjectives descriptive of persons. It was found that the level of ability represented by 50 per cent. of right answers for the whole series taken together was not reached until the age of fourteen, and that at this age the second and the fifth tests produced but 46 per cent. and 45 per cent. of right answers respectively.

A simpler test which may show the level of development arrived at by children in their mastery of general and abstract terms may, perhaps, be described here. I have called it a test of *ideational addition*.² The children tested are given a series of fifty 'sums' the answers to which are class names instead of figures. At the lowest level of ideational addition they are asked to complete a sum like the following (after being given examples of the same kind): 1 robin + 1 thrush + 1 sparrow = 3 , the answer, of course, being *birds*. At the middle levels they come upon sums like 1 lb. oats + 1 lb. barley + 1 lb. wheat = 3 lb. , the answer to which might be *cereals*, *corn*, or *grain*. At the highest levels sums like the following appear: 1 daily newspaper + 1 weekly newspaper + 1 monthly magazine = 3 , the answer expected to this being *periodicals*. It is only towards the end of the junior school stage that the average child can show a tolerable mastery in this kind of test.

Again, if children who have been taught sufficient grammar to be able to go through their written compositions for the previous term or so and write down all the nouns used by them that (*a*) do not have a plural form; and (*b*) are not picturable, they will find very few indeed, even in senior school classes, where the age is below thirteen. Such words designate the concepts which children are not usually mature enough to deal with.

It must be perfectly clear from these figures that the average child whose vocabulary will range from 5000 words in junior to 10,000 in senior schools possesses plenty of words but not necessarily those which are adequate for the discussion of the general significance of his experience. It is important to note that words have as a rule more than one meaning, and that the young child may understand them in the literal sense only. Thus, *cut* in the physical sense will convey its meaning to every child, but in the social sense, as used in the expression *cut dead*, it will be understood by few of them.

¹ *Vocabulary Tests* (University of London Press, 1931).

See p. 284.

18. THE VOCABULARIES OF ORAL AND WRITTEN ENGLISH

Most of the vocabularies of children so far investigated have been oral. It is not so easy to obtain and evaluate samples of children's writing vocabularies, as the following brief statement may serve to show.

The present writer arranged for fifteen children between the ages of six and a half and eleven and a half to keep diaries over a period averaging eight weeks and to spend twenty minutes or so daily in making entries about topics of personal interest—for example, things seen in the streets, or matters discussed at home or read about in books or newspapers. The children produced altogether just under a hundred thousand words, of which 4079 were different (including 348 proper names). The average size of an individual vocabulary for the period was 986 words, the largest being 1338 and the smallest 531. These vocabularies were increasing at the rate, on an average, of 65 new words a week (90.3 at the highest level and 40.3 at the lowest). One could not expect that these increases would have been kept up indefinitely, though it may be pointed out that the increases do not so much represent new words used for the first time as words brought out from an already existing store. There were, however, signs of a falling off towards the end of the period in the proportion of new words introduced into each of the diary entries, but the question whether or not a fresh interest would have brought about a fresh spurt must remain unanswered. Nevertheless, if we make a conservative estimate and allow for an increase, say, of forty new words per week this works out at some two thousand a year, which, added to, let us say, three thousand, possessed by the average child of six and a half, gives us some fifteen thousand at the age of fourteen and a half. This may be compared with Terman's estimate of nine thousand for the average child's vocabulary at the same age and with Kirkpatrick's estimate of the young American high school pupil's oral vocabulary of fifteen thousand at eighteen plus.¹

It may be added that the reading vocabulary of children, and of adults too, greatly exceeds both their speech and their writing vocabularies. But a problem will need solving here before reliable figures can be put forward. How far should we go in accepting a word as having been understood in reading if a synonym can be readily furnished as its meaning? If a boy, asked what *indolent*

¹ The number of words in the *Oxford English Dictionary* has been variously computed as between 400,000 and 500,000. Of these words the number used by Shakespeare in his plays has been estimated at 25,000, and by Milton in his poems at between 7000 and 8000. The vocabulary of the Authorized Version of the Old Testament is said to amount to 5642 words, and that of the New Testament to 4800 words.

means, answers *lazy* can we say that he understands the precise meaning of *indolent*? If so we fail to distinguish between him and the boy who has been trained to look for a difference in meaning between words regarded as synonyms and can indicate in the present instance what this difference is.

19. COLLOQUIAL AND LITERARY ENGLISH

Now it is clear that the vocabularies at the command of children¹ for the purposes of writing must be greater than those which serve them for everyday speech. In writing many words flow readily from the pen which would not come trippingly from the tongue. Such words and phrases are chiefly of two kinds. In the first place there are those which are felt by the writer to be better suited for literary than for colloquial use, so that a good many children find it natural to write *obtain* for *get*, *proceed* for *go*, *alight* for *get down* or *off*, *azure main* for *blue sea*, and so on, without any real appreciation of the differences between the meanings of the corresponding words in such pairs. All they can say is that the longer words seem to them to sound better—to throw a more romantic or a more imposing colour over their own thoughts; the *old sailor*, for example, cannot possibly be so interesting, they feel, as the *Ancient Mariner*. As we grow older it becomes easier to introduce such words into our conversation as appear at an earlier age only in our writing; the lag between the oral and the literary vocabulary becomes less marked. Nevertheless, a good deal of the kind of language which is imperfectly understood by children may become a matter of habit to them, though but partly understood, when they have grown up to be men and women and have to deal with house agents and salesmen, whose language is habitually a little larger than the requirements of ordinary life. This is less excusable. But children will often say when questioned about a grand word they have used that it means just the same as a simpler equivalent, but that somehow it sounds better. The increased vocabulary which results from this sort of practice does not correspond to a genuine increase in mental power, and it is the duty of the teacher to see that his pupils can always distinguish in meaning between the simpler word and its more showy alternative.

The second kind of word which does not readily find its way into everyday speech is that which is not easily uttered,¹ or the correct pronunciation of which is not with certainty known. As Mr de la Mare has said, "There must be many people too modest

¹ E.g., *gawdaw*, *swory*.

to venture on using for speech purposes a valuable fraction of their available vocabulary owing merely to a doubt of the best way of pronouncing it." It may, however, be added that the introduction of the radio has made the sound of a good many words familiar to children (and to adults) which they would never have ventured to pronounce in company if they had not heard them so frequently as they now do from the B.B.C.

Until, therefore, some one with the necessary industry and time appears and gathers together some hundreds of diaries written by children of all ages and degrees of intelligence we must be content to guess at the size of the average child's full vocabulary—that is, oral plus written. The guess which the present writer is inclined to make is that it is about 50 per cent. greater than the oral vocabulary at seven years of age, but that this proportion becomes steadily less as maturity approaches, after which it is not large enough to be worth bothering about.

20. THE VOCABULARIES OF ADULTS

However uncertain the conclusions may be which we have reached in estimating the size of a young person's vocabulary at any given age, there will be greater uncertainty still when we attempt to estimate the size of the average adult's. We can safely say, though, that most of the early estimates were grossly inaccurate. It is familiar to most persons, for example, that Max Müller, an eminent philologist in his day, gave the vocabulary of an English village labourer as some 300 words. This was in 1867. At about the same time Dean Farrar is said to have listened to the conversation of three peasants gathering apples and to have concluded that their vocabulary amounted to no more than 100 words. Then, as now, village labourers were brought up on nursery rhymes and folk-tales, and we have already suggested that a knowledge of forty of the shortest rhymes would give a child a vocabulary of over 400 words. An increase of only fifty new words annually would bring this number up to well over a thousand in adult life. Müller's estimate may be contrasted with the estimate of Smedburg, who gave the vocabulary of a Swedish peasant as about 26,000 words. Dr Douglas Hyde, an authority on the Irish language, put the vocabulary of an average Munster peasant at between 5000 and 6000 words. This seems to be nearer the mark for the type of person who is cut off from urban life.

With better opportunities for education and a fuller acquaintance with the innumerable products and processes of an urban civilization the vocabulary of most of us must inevitably increase.

For example, Mr C. K. Ogden, the inventor of Basic English,¹ according to a *Times* report, puts the vocabulary of a teashop waitress at 7000 to 8000 words, of the average Trades Union leader at 10,000 to 15,000 words, of Mr Winston Churchill at 25,000 to 30,000 words, and of professional scientists at from 60,000 to 80,000 words. Allowing for an average increase of some 700 words per year from the age of fourteen when, as we have suggested, the average child's vocabulary numbers close upon 10,000 words, most adults in our cities should possess a vocabulary at twenty-one of some 15,000 words. This is to omit the literary vocabulary which is not part of a full vocabulary in early life. If we add another 20 per cent. to cover this section of the vocabulary, which is fully operative only at the onset of maturity, the average adult's vocabulary would seem to be somewhere in the region of from 18,000 to 20,000 words.

But, after all, words are of less importance than ideas. In this connexion we may note that Mr Ogden has abundantly proved that Basic English, with its limited vocabulary of no more than 850 words, is quite large enough for expressing the plain sense of everything that needs to be expressed for the ordinary purposes of life. It has been estimated, moreover, that Scott, George Eliot, and Dickens did 80 per cent. of their writing in terms of the commonest thousand words. Clearly, the difference between the most valuable and the most worthless of books lies elsewhere than in their vocabulary. To possess a stock of good words is of little use unless we know how to employ them. As Hobbes said, "Words are wise men's counters, but they are the money of fools." Yet the practice still exists among teachers of aiming at the enlargement of vocabulary by means of formal exercises, as though such enlargement were in itself of value. It is the mind that needs enlargement. The enrichment and illumination of experience by observation and discussion is a surer way to the genuine enlargement of vocabulary than can be secured by concentration on formal exercises in the correct use of words the need for which is not personally felt.

NOTE ON "THE TEACHER'S WORD BOOK"²

This extremely valuable compilation gives us a list of the ten thousand commonest words in the English language, as obtained from reading forty-one different books and papers, containing some four and a half million words. The sources tapped comprised the Bible, the chief English classics, books usually read by

¹ *Basic English* (London, Kegan Paul, 1932).

² E. L. Thorndike, *The Teacher's Word Book* (New York, Columbia University Press, 1927)

children, books read for practical purposes by adults (*e.g.*, 'guides' to cookery, carpentry, etc., elementary text-books, newspapers, and letters).

The word-list given in the *Word Book* sets out these ten thousand words alphabetically with a number assigned to each to indicate the frequency of its use and hence its relative importance. Thorndike claims that his count should help the teacher to decide which are the most important words to teach.

It is, perhaps, a defect of the word-list that it is not sufficiently explanatory of itself. No meaning is attached to any word, so that we do not know, for example, though we can guess, how far *game* is to be placed among the commonest thousand, because it is used with reference to *fun*, *play*, and *sport* or because it is used to describe certain birds. The reply is that whatever its meaning may be in a particular instance *game* is a very important word to learn to use very early in life. Again, the reader may ask, for example, why *cup* should be so much commoner a word than *saucer*, or *coat* than *trousers*. The reply is that the word *cup* and *coat* are frequently used in a figurative sense as well as in a literal sense. But this means that the list is in consequence an adult's list, since children are not much given to such metaphorical usage. It is also a literary rather than a colloquial selection. That the Thorndike list does not faithfully reflect for us the language used by the average person in speaking and writing may be illustrated by reference to the writer's Vocabulary Tests. According to the Thorndike list, the average frequency¹ of the 100 words in each of these five vocabulary tests is as follows:

Test 1: Nouns (a) or (i)	13.2
Test 2: Nouns (b) or (ii)	24.4
Test 3: Verbs	21.7
Test 4: Adjectives (a) or (i)	13.6
Test 5: Adjectives (b) or (ii)	10.9

One might reasonably expect from these figures that Test 2 would be the easiest and that the order of difficulty of the tests would be 2, 3, 4, 1, 5. As a matter of fact, the easiest test was invariably No. 1, and the order of difficulty usually was 1, 3, 2, 4, 5. Other facts which point the same way may be adduced. The words *tease* and *slander*, for example, are given as equally important, but whereas the former word is familiar to most children, the latter is seldom heard on their lips. Again, *he* is quoted as being more widely used than *head*, but the pronouns are not correctly used by children until some time after many of the parts of the body have been learned. It should also be said

¹ The figure 24 means that a word is among the 2000-3000 commonest words; 10 that it is among the 4000-5000 commonest words

(1) that compound words are conspicuously absent from the *Word Book* (e.g., *spirit-level*, *tape-measure*, *bed-clothes*) (2) that plurals are frequently not given where the -s gives the singular a new sense (e.g., *scale scales*, *fat fats*); and (3) that English weights, measures, and coins are naturally rated too low in frequency.

We should go to Thorndike's list to discover how frequently, not how early in life a word is used. There is no doubt that in the next ten years we shall have separate word lists for reading, writing, and speaking, and then it will be more fully realized how important Thorndike's pioneering was. Several such lists, indeed, have already appeared, the best-known being Horn's *Basic Writing Vocabulary*¹ (a list of the most commonly used 10,000 words), Gates's *Reading Vocabulary for the Primary Grades*² (a list of the most useful 1500 words for the young reader to know), and Stone's *Graded Vocabulary for Primary Reading*³ (a list of the commonest 2000 words in books for young children). Less well known, perhaps, is the Carnegie Committee's *Interim Report on Vocabulary Selection*,⁴ which gives a list of approximately 2000 words offered as a foundation vocabulary for use in teaching English to non-English speaking pupils.

¹ University of Iowa Monographs in Education, 1st Series, No. 4, 1926a.

² New York, Teachers College, Columbia University, 1926 (the list in the 1935 edition has been increased to 1811 words)

³ See *Better Primary Reading* (St Louis, Webster Publishing Co., 1936)

⁴ London, P. S. King and Co., 1936.

CHAPTER III

CONTINUOUS SPEECH

1. THE SECOND MAIN LINE OF LINGUISTIC DEVELOPMENT

Linguistic development may be regarded as consisting, on the one hand, in the gradual accumulation of a stock of words useful for naming purposes—and this we have now dealt with—and, on the other hand, in the growth of an ability to put words together for the expression of what one may wish to say about the objects, ideas, etc., named. In the medical world this distinction is clear; specialists in mental disorders affecting speech have found that the inability of a patient to recall names is not always the same thing as the inability to use words together in an intelligible manner. Sir Henry Head calls these maladies respectively *nominal aphasia* and *syntactical aphasia*. The failure to note the distinction has made a good deal of the work so far attempted on the speech development of children less valuable than it might have been.

The most modern method of studying development in children through the language they use centres accordingly round their continuous speech rather than their vocabularies. We owe the first effective use of the method to William Stern.¹ More recently the method has been employed with freshness and skill by Jean Piaget,² of the Rousseau Institute, Geneva, and by Dr Susan Isaacs³ in our own country. The method consists of taking verbatim reports of all that children are heard to say when they talk freely among themselves, and of supplementing their free talk by questions designed to test the validity of any hypotheses that may have been suggested through an analysis of the material already collected. To ensure success in interpreting the results we must study in their context the words and phrases which are used; that is, we should note whether they are spoken during play or in the course of work, in moments of interest or boredom or fatigue.

A danger which faces us as soon as we attempt our interpretations is that we are apt to think that adult conceptions have been formed and adult views adopted whenever children make use of words which adults would normally employ. But the child is not an adult, even in miniature; our world is not his world, and

¹ William and Clara Stern, *Die Kindersprache* (Leipzig, Barth, 1907).

² J. Piaget, *The Language and Thought of the Child* (London, Kegan Paul, 1928).

³ S. Isaacs, *Intellectual Growth in Young Children* (London, Routledge, 1930).

his problem, among other things, is both to use the language of adults for his own purposes, and to understand the adult way of looking at things which our language has been devised to describe.

The twentieth-century student of language has the advantage, however, of being able to check any conclusions he may reach about the language of children by comparing them with whatever may be relevant in the conclusions of those who have studied the linguistic data of anthropology and psychopathology, the assumption being, in the first place, that speech development in the child and in the race follows broadly the same lines, and, in the second place, that the powers lost as a result of mental derangement disappear in the reverse order of their acquirement, just as in a stricken tree death appears in the newest twigs before it reaches the older branches.

2. THE APPEARANCE OF THE TWO-WORD SENTENCE

Up to the end of the first eighteen months or so the wants of infants are as a rule relatively simple and their interests comparatively limited, so that their linguistic needs are correspondingly few and easily satisfied through the use of single words accompanied, as a rule, by a suitable gesture or inflexion of the voice. But towards the end of this period a significant addition to the infant's linguistic equipment appears in the form of an interest in continuous vocalization. As early as at fifteen months infants will show a pleasure in pouring out streams of jargon which they seem to utter more or less expressively, in imitation possibly of the continuous speech which they hear going on around them, for it must sooner or later strike them that adults do not confine their talk to the utterance of single noises. At eighteen months infants use this kind of jargon conversationally. Such an interest in continuous vocalization and an ability to sustain it with varied intonation must clearly prepare the child for talking in the real sense of the word.

Another point of importance favours the use by children of more than one word at a time. In their second year most children come to observe not only the characteristic features of the interesting things, animate and inanimate, in their environment, but also the more significant differences that take place from time to time in their behaviour or appearance; and they learn to express their desire for (or their dislike of) such differences as interest them. They realize that things need not 'stay put' in a world where mother or nurse is usually at hand and ready to rearrange them in accordance with their desires; they learn, in conse-

quence, to use phrases like *mama-gone* when they disapprove of Mother's absence, or they may say *mama-ball* or *mama-dolly* when they want her to do something about their toys. At this stage (about the middle of the second year) something appears that resembles the authentic sentence of the grammar book. We must remember, however, that before this the infant has used single words with meaningful intonation and in a manner that has led some writers to regard them as 'sentence-words.'¹ But there would seem to be no point in calling a single word a sentence if by the word *sentence* we mean something more.

It is because the parent (or nurse) continually directs the attention of the infant to single separate objects and actions, and names them for him one at a time that words at first are learned and spoken singly. This does not mean that language cannot be learned otherwise than word by word. Indeed, words were probably isolated and treated as separate elements of language long after continuous intelligible speech was common among men.² There is no reason, in pure theory, why we should not begin straight away with phrases and short sentences in teaching the child to speak. The objection to such a course is merely a practical one. It would take much longer to proceed by this method. A good deal of repetition is necessary in teaching a language which has to be read and written as well as spoken, and it is a saving of effort to pick out single objects and actions and teach their names one at a time at moments when such objects and actions are most likely to attract and arrest the child's attention.

But as language comprises more than names for objects and actions we are obliged to teach phrases as well as names.

3. LEXICALIZATION

Nevertheless, it is widely believed that language cannot exist until words have been invented to build it up from; that words came first in history, and that it was from the combination of words that intelligible speech, in the real sense of the word, arose. The Greek notion of syntax, for example, is the notion that the sentence consists of an assemblage of parts which are consciously brought together. The 'associationist' theory of mental structure that held sway for so long in psychology as the explanation of memory and consecutive thought also helped to fortify the traditional view. But what may be true of language after it has become

¹ "At the lowest level of speech, the distinction between sentences and single words does not exist." Bertrand Russell, *Inquiry into Meaning and Truth* (London, Allen and Unwin, 1941).

² Cf. Basque, however, in which words seem to be sentences.

highly developed may not be true of its earliest forms. As a matter of fact, we can no longer maintain the old standpoint in the face of the results of modern scholarship.

Complete certainty is impossible about the origins of language, but many persons think that it existed in the form of vocal noises instinctively evoked by the recurrences of familiar and interesting social situations and the approach of well-recognized types of emergency. In the course of time these noises were sufficiently subjected to conscious recall and so were amenable to analysis, as a flow of sounds into separate syllables, and as continuous speech into phrases and words. As this process went on modification of the original noises probably took place, so that gradually the highly analytic varieties of speech took form which we find in civilized communities to-day. Primitive people were no doubt as incapable of splitting up the flow of their speech into separate words as infants are, or as adults are when the sounds of an unfamiliar foreign language fall on their ears.

It may perhaps be mentioned that even late in the history of civilization the division of language into words was not common on coins and anything but regular in manuscripts.

It is because language is fundamentally a flow of sounds that what has come to be called the process of lexicalization has to be assisted while children are still at the nursery level of development, when expressions like *ball-gone* may not be 'combinations' except to the adult hearing them as such. Certainly most words have to be isolated for the infant out of the flow of sounds which all speech at first seems to be. Even at school young children are still found who have difficulties of this kind about common everyday words. Familiarity with print helps the young child, able to read, to know words as separate elements of his language. But what he has not seen written or printed he may not so easily analyse for himself. And in transcribing from print he may fail sometimes to observe word-divisions. We have all heard of the child who described his division sums as *goesintos*, and Arthur in *Tom Brown's Schooldays* was not exceptional in thinking *gudenuf* a single word. The present writer has seen little children write such words as *alofersodern*, *gudafnoon*, *apastate* (= 8.30), *bonearrow*, and *markenspencers*. An amusing example of imperfectly lexicalized language is to be found in one of Aldous Huxley's stories in which a child, hearing recited the lines from Edward Lear,

And they sailed away for a year and a day
To the land where the Bong-tree grows,

asked naïvely, "Mother, what's a *bongtreegrows*?"

4. THE NATURAL LINGUISTIC UNIT

But if we agree that it is no longer satisfactory to explain continuous speech as arising from the combination of separate words it is equally unsatisfactory to maintain the view that the natural linguistic unit is the sentence as defined by the grammar book. For example, it is stated in a recently published manual that *for speech and thought the unit is undoubtedly the sentence, the equivalent of the complete thought*. Some teachers who have been unduly influenced by this kind of doctrine have tried to make their pupils speak on every possible occasion in what are called complete sentences. The objection to this practice is that no one outside a school makes it an invariable rule to employ a full sentence for the communication of each thought that occurs. In conversation we manage to make ourselves quite well understood when we say *yes, not likely, certainly, nonsense, of course*, and so on. And if it is urged that these expressions should not, and indeed cannot, be taken as making sense by themselves but are to be regarded as continuations of what has already been said or implied by another party, then we may still observe that such unconnected remarks as *Good-morning, Tickets please, No smoking* and *Sixpenny seats this way* convey perfectly definite meanings, though they are anything but sentences as usually defined. Inn-signs, shop-names, and road-names fall into the same category.

The truth is that the natural linguistic unit may be a word or a phrase or a sentence; it is, as a rule, that group of words which cannot be further divided up without its essential meaning disappearing. Single words in certain circumstances may be used to stand for definite and unambiguous ideas, and this explains the tendency of many persons, and particularly dictionary-makers, to think of the word as the natural linguistic unit, and consequently to look upon language as built up out of single and separate words. Nevertheless, we do not usually speak in single words, and this accounts for the objection of others to taking the single word as the natural linguistic unit.¹ Besides, what stands as a word in one language may have to be represented by a phrase in another; while at times even in the same language two or more words may be written as one — *e.g., won't, isn't, it's, he'll, she'd, we've, they're*, etc.

All of us, as a matter of fact, whether adults or children, speak normally with our attention fixed on the idea that we want to express, and often we do not know what form our expression has taken until it has appeared. Our attention is not on words or

¹ It may be recalled that Pope once said that he would allow the publisher of a dictionary to know the meaning of a single word but not of two words put together.

phrases or sentences unless difficulty arises in the act of expression. This suggests that the natural unit of thought is the idea which sometimes requires a word, sometimes a phrase, and sometimes a full sentence as the unit of linguistic expression.¹

5. FORMULAS AND FREE EXPRESSIONS

The classification of linguistic expressions will vary with the purpose we have in mind—for example, they may be classified according to function or to form. In terms of function we may distinguish between sentences which are (1) indicative (*The dog is wet*); (2) exclamatory (*Good heavens!*); (3) interrogative (*Is that you?*); or (4) imperative (*Go away!*). In terms of form we may distinguish between formulas and free expressions.

We owe the latter distinction to Jespersen,² who speaks of expressions capable of variation without loss of their characteristic forms, and expressions which are for all practical purposes invariable. *I love mother* is a form capable of variation; it has a subject, a verb, and an object, and each of these may be replaced by another subject, verb, or object, leaving the grammatical structure intact. Thus, *I like butter*, *We loathe porridge*, *Tom makes mud-pies*, *Mary bakes cakes*, and so on, are all framed like *I love mother* on the same grammatical pattern, one that can be freely altered. But *No fear!* *Well, I never!* and *How do you do?* are forms incapable of such variation. Jespersen calls the variable forms "free expressions" and the invariable ones "formulas." He describes free expressions as expressions created on the spur of the moment by analogy with a certain type that has come into existence in the speaker's subconscious mind as a result of his having heard many sentences possessing a common pattern, recognized as appropriate to the occasion of its use.

From what has already been said it will be clear that the formula may well represent the primitive analysed exclamation uttered with feeling in an exciting situation in the life of early man, while the free expression differs from the formula in having been developed through reflective analysis farther away from what we suggest was the original kind of speech. In other words, free expressions are for the most part intellectual in character, designed and adapted for the purpose of conveying thought rather than feeling. Formulas, on the other hand, spring to the lips not so much as expressions of thought as the means of dealing with certain kinds of personal or social emergency. We exclaim

¹ Emotions are apt to find readier expression in non-sentence form. Cf. *Up Eton!* with *Floreat Etona*.

² O Jespersen, *The Philosophy of Grammar* (London, Allen and Unwin, 1924).

Dear me! You fool! or So what! not for the purpose of saying what we think but how we feel.

It is interesting to note in passing that pathologists who have made a study of speech disturbances have noted the same kind of distinction as Jespersen has made, between what we have suggested is the language of the intellect and the more primitive and emotional type of language. They have observed that words and phrases learned by rote and without conscious attention to their literal meaning will often be employed without hesitation when required as stock responses to familiar situations and yet fail altogether to come to the mind when required for the conscious presentation of an idea. In other words, formulas learned in early life (*e.g.*, *Oh, dear!*) can, as a rule, still be used by the aphasic after the power of constructing free expressions has left him.

6. THE DEVELOPMENT OF FREE EXPRESSIONS

It will be interesting to trace the development of the simpler types of free expression in the speech of children. Infants do not at first realize, of course, that some of the expressions which they use are capable of variation without loss of their characteristic pattern, while others are only changed at the expense of all meaning. But sooner or later they feel (rather than know) that an expression like, say, *bow-wow—gone* is a type capable of modification in appropriate circumstances into, say, *Teddy—gone, mama—gone, or ball—gone*; and that *ball—gone* is capable of modification into *ball—lost* or *ball—coming*. On the other hand, expressions like *Thank you* and *Yes, please* are not capable of the same kind of modifications without becoming nonsense.

Few studies of infants are available to allow us to trace the development of free expressions from the *bow-wow—gone* stage onward. An American research places the first short sentences (three words or more) at from three to three and a half years, with verbs uninflected, and with prepositions, conjunctions, auxiliary verbs, and pronouns usually omitted.¹ Karl Bühler² claimed to have noted the use by quick children of all the chief varieties of sentence-structure by the age of three and a half. Valentine³ has also stated that a child may use "all grammatical forms, even conjunctions of all kinds, and complex (including hypothetical) sentences" in the fourth year. Few students of

¹ M. M. Nice, "Length of Sentence as a Criterion of a Child's Progress in English," *Journal of Experimental Psychology*, XVI, 370-379 (1935).

² K. Bühler, *The Mental Development of the Child* (London, Kegan Paul, 1927).

³ C. W. Valentine, *The Psychology of Early Childhood* (London, Methuen, 1942). I regret that this excellent work has been too recently published for me to make full use of it in writing the present book.

infant speech would care to be so positive in this field as Bühler or Valentine. Miss McCarthy¹ says that she found children able to use all the most complex of sentence forms occurring in adult conversation by the age of four and a half; but the most complex sentences in her published records would appear to be two sentences used by a child of four and a half (whose parents belonged to one of the higher occupational groups): these sentences were *Do you know what we got?* and *I know what that book's about*. These may have or may not have been learned as formulas. Until the form itself can be varied to match a fresh situation we have no right to say that it is a free expression. Unless we distinguish between merely reproductive or imitative forms which have been learned by rote as formulas and genuine free expressions (*e.g.*, complex sentences with subordinate clauses of, say, condition or concession) which reflect an ability to express a set of ideas or events, we are missing an important point, and the failure to note this distinction vitiates the data of the authorities quoted.

A scrutiny of the records of children's talk in Mrs Isaacs's book is more illuminating. Her pupils were children of exceptional ability (average I.Q. 132) from exceptional Cambridge homes. They were probably two or three years above average in conversational ability. If we take their mental age as a criterion we may say that complex sentences with temporal clauses (introduced by *when*), noun clauses (*e.g.*, *I don't know how he does it*, *I thought you would*, *Do you see where it is?*), and causal clauses (introduced by *because*) were being used at the mental age of six and a half, and that complex sentences with conditional clauses (introduced by *if*), as well as adjectival clauses (*e.g.*, *Look at the part that's in the water*; *I like some one who gives you presents*) came a year later. Other kinds of clause were too infrequent to be worth mentioning.

Bühler stated that the order in which the subordinate clauses of complex sentences appeared was as follows: first, temporal and relative clauses and noun clauses in indirect questions, and then causal, conditional, and final clauses. It will be seen that this corresponds closely with our list as compiled from Mrs Isaacs's book with the exception that final clauses were not conspicuous in the talk of the Cambridge children.

7. THE BEGINNINGS OF FREE CONVERSATION

The extent of a child's power over language as an instrument of communication will naturally be looked for in his conversa-

¹ D. A. McCarthy, *The Language Development of the Pre-school Child* (University of Minneapolis Press, 1935).

tion. If he comes from a good home he will learn to use language conversationally at a much earlier age than a child with no such home advantages. It would be universally agreed that children from well-managed large families and children who have passed through good nursery classes (where opportunities exist for intelligent social play under sensible supervision) develop their conversational abilities earlier than those who are less fortunate in their homes and schools. The opinion of most English teachers is likely to be that Piaget¹ has dated the age of conversation a year or two late in fixing it at seven plus for the average child. Left alone, however, children may not as a rule learn to collaborate in action before the age of six, or in thought before the age of seven.

Conversation, generally speaking, centres at first around disputes. G. K. Chesterton somewhere says that people quarrel because they have not learned to argue. Whether this is true or not of adults, it is certainly true of children. Remarks that hurt them or are otherwise unpleasant are at first ignored. If they cannot be ignored they are countered with stubborn silence or with tears. Sometimes, however, they may provoke flat opposition and result in the exchange of blows. For conversation cannot begin until the circle of a child's interests or desires overlaps or conflicts with those of another child. "Look at that lion," says the child of five or six to his companion with a picture-book. "That's not a lion; it's a dog," may be the scornful reply. This is hardly conversation, but it is the sort of dispute out of which genuine conversation arises.

Quarrelling with words begins at about the age of five or five and a half, and, naturally perhaps, the countercheck quarrelsome and the reply churlish are learned before the retort courteous or the quip modest; indeed, the forms of speech used in polite disagreement are learned late, if at all. This being so, the right policy in dealing with children engaged in hot dispute is not to interfere too hastily from a desire to bring about a quick peace, but to recognize disputation as natural and to proceed to help the disputants to realize how important it is to state their differences adequately and coolly. Otherwise it may be a very long time before the need is felt of supporting assertions with a show of reason.

Genuine argument in which reasons are advanced in support of assertions made is not usual before the age of seven. Many persons have erroneously supposed that quarrelsome children will appreciate the value of appeals to reason whatever their age. But the child does not deem it necessary to justify himself with a

¹ J. Piaget, *The Language and Thought of the Child* (London, Kegan Paul, 1925).

show of reason much before seven. As soon as the need for explanation is borne upon him he does not find it difficult to adduce his reasons. In any case, it is certainly through quarrelling that the majority of children first begin to realize the need for making themselves understood.

8. SOME EXPERIMENTAL WORK

One way of studying the linguistic development of children is, as we have already indicated, the more formal one of tracing step by step their growing mastery of the free expression with its various grammatical complexities. The underlying assumption here is that as the child gains power and extends his mental grasp he finds it possible to attend to an increasing number of objects or ideas at once and, after considering them together, to speak of them with due regard for their relative interest or importance. Now it should be possible to select suitable pictures and grade them in the order of the complexity of their general meaning, and therefore in terms of the difficulty of their comprehension for a child, and this being so, they could perhaps be used as a means of tracing the child's growing mastery over the sentence-form, since this would be reflected in his ability to describe their contents succinctly. An experiment may be instanced in illustration of this method.¹

Children individually in a number of schools were shown pictures of everyday scenes, arranged in sets of six of approximately equal difficulty. In each set two of the pictures were used as samples, which the examiner carefully interpreted and described to the children. When it was clear that the child to be examined understood what the two sample pictures were about and could repeat the examiner's description of them he was asked to describe the four remaining pictures one by one, using the same verbal pattern for his descriptions as that used by the examiner. The table on p. 71 indicates the grading adopted, and the ages at which 70 per cent. of the children could first manage satisfactory descriptions according to the patterns prescribed for them. In order to ensure a standard form of sentence being employed, the children were instructed to frame their descriptions as completions to sentences beginning *It is a picture of* . . .

9. DESCRIBING THINGS REMOTE IN SPACE AND TIME

In a picture we have something which stands midway between the world of directly apprehended objects and events and the

¹ A fuller description is given in Appendix II, 2 (1), pp. 287-299.

world that exists only in memory and imagination. The simplest and most elementary forms of thinking—the thinking of the higher animals and of little children—is thinking in terms of objects directly observable. The ability to think and talk of objects or events remote in space or time is, on the whole, a later achievement. To talk intelligibly and accurately about what one

STAGE	TYPE OF PICTURE	DESCRIPTION REQUIRED	AGE
1	Picture of a boy sliding	Two related ideas	4
2	Picture of a boy riding on a donkey	Three related ideas	5
3	Picture of a girl offering an apple to a donkey	Four related ideas	6
4	Picture of a little girl lifting up a little boy to post a letter	Five related ideas	7
5	Picture of a boy who has fallen into the water	Three related ideas + relative pronouns as subject in a subordinate clause	8
6	Picture of a boy looking up at a bubble which he has blown	Four related ideas + relative pronoun as object in a subordinate clause	9

observes to be happening in these three worlds—the objective world, the picture world, and the world of the imagination—becomes increasingly harder as the things talked about are less and less to be understood by immature minds. And skill in the interpretation of the things noted in any one of the three worlds may go with weakness in interpreting those of the other two. A person capable of adequate description and interpretation of what is seen in the mind's eye may fail to talk sense when called upon to describe a complicated piece of mechanism. But, as may be expected, insight and subtlety in dealing faithfully with the things of the imagination is rarer than insight and subtlety in dealing satisfactorily with the objects of the physical world.

How soon the power to talk sensibly about the remote in space or time will appear depends partly on native ability but partly also upon the quality of the linguistic environment in which children are brought up. Where the environment is linguistically poor this ability, whether sooner or later acquired, appears late, but it enables us to hold ideas of absent objects steadily before the mind and consider what might happen to them in various circumstances. This stage of thinking, the *If this, then (probably) that* (or *not that*) stage, is not usually reached before

the mental age of eleven, as every teacher of theoretical geometry has learned from experience. Moreover, there are grades of difficulty in the *If this, then that* type of problem, those dealing with temporal things being easier than those dealing with non-temporal ideas and relations.

If, however, all that is meant by thinking of remote objects or events is having a succession of loosely connected images passing before the mind's eye, then the ability to talk about what is not immediately present to the senses must be admitted to develop much earlier than the more genuine kind of thinking. In other words, children learn early to *narrate*. This sometimes means, of course, that they have merely acquired a service of words which they have drilled into order without any clear apprehension of what is meant by them. But usually a full vocabulary is associated with a grasp of what is being described and with an ability to note with some degree of precision the relations of cause and effect, of condition and sequence, and so on among things; and it will be understood that the effective expression of all this in words must involve the use of the more complex forms of sentence-structure.

The description, then, of what is pictured in the imagination may take the form of narration with its own particular technique, or it may take the form of attempts at the imaginative reconstruction of the elements of what is thus pictured, and this may involve the use of a somewhat different technique.

10. NARRATIVE TECHNIQUE

Judging from the first attempts of the child at narration, we should perhaps be justified in thinking that the earliest and simplest way of apprehending events in time is for him to see them happening one after another, unconscious of the fact that subtler temporal relations are possible, such as those of (*a*) simultaneity, (*b*) the overlapping of events, and (*c*) the inclusion of one event within the time period of another. Little children are apt to think that events invariably occur either unconnectedly or in a very simple sort of sequence—spaced out, as it were, at even intervals along the line of time, like beads on a string. This would account for their habit, so exasperating to a certain type of teacher, of connecting up the successive statements in their narratives with *and's* or *and then's* or *and so's*.

But this is not a habit confined to little children. It would be easy to collect passages from the Bible and other sources which would suggest that grown-up people living in a less sophisticated age than ours tended to see things happening, as little children

do, either unconnectedly or one after another in an easily distinguished order. Here, for example, is the story of how David slew Goliath, the narrative style of which faithfully represents the tense sequences of the original Hebrew.¹

And it came to pass that when the Philistine arose and came nigh to meet David, that David hasted and ran toward the army to meet the Philistine. And David put his hand in his bag and drew thence a stone, and slang it, and smote the Philistine in his forehead; and he fell on his face to the ground.

On the basis of the evidence supplied in the *Oxford English Dictionary* we may safely say that the other 'connectives' first acquired by English children are those which were first acquired by the race. For instance, the first quoted use of some of our commonest connectives is as follows: *and*, c. A.D. 700; *where*, 950; *while*, 971; *when*, 1000; *who*, 1297; *which*, 1300; *because*, 1305; *although*, 1325. The appearance of some of the latest acquired of these words in the speech of little children may be regarded as a sure sign of linguistic progress.

The introduction into English of forms of sentence-structure more elaborate than the Old Testament writers used was due to the study of the classical writers of Greece and Rome. Translators first of all and original writers afterwards adopted the complex sentence-structure of the Greek and Latin authors as best suited to the expression of involved ideas. The participial and absolute forms of construction, for example, which are not needed in the faithful translation of the Old Testament Hebrew (and, indeed, are rare in English everyday speech), appear frequently in the translation of the New Testament Greek, where they are quite in place; as, for instance, in the introduction to the Sermon on the Mount (Matthew, v):

And seeing the multitudes, he went up into a mountain: and when he was set, his disciples came unto him, and he opened his mouth, saying . . .

and, again, in the Acts of the Apostles, where we read, for instance (xxviii, 30-33):

*And Paul dwelt two whole years in his own hired house and received all that came in unto him, preaching the kingdom of God, and teaching those things which concern the Lord Jesus Christ, with all confidence, no man forbidding him.*²

¹ See *Encyclopædia Britannica*, Ninth Edition, xi, 596, and Fourteenth Edition, xi, 354.

² We shall take up this subject again in Chapter IV when dealing with the development of the child's powers of written expression.

II. REPORTED SPEECH

It is not surprising, therefore, to find that one of the obstacles to be overcome by children learning to narrate is that of tense-sequence in their reported speech. The difficulty they experience in changing direct speech form into the appropriate indirect speech form is usually due not so much to an incomplete understanding of the context as to the fact that they have not arrived at the mental age when they are at home with the time-notions, which the less used tenses exist to express. A test given by the writer to a large number of children of school age bears this out. The majority of them at the age of ten had no difficulty in dealing correctly with problems like the following:

Choose the word (or words) needed to make good sense in this sentence and cross out the others:

1. After we $\left. \begin{array}{l} \text{have had} \\ \text{had had} \\ \text{had} \end{array} \right\}$ tea the entertainment began.

But a minority only at the age of twelve were able to tackle the following correctly:

4. If I $\left\{ \begin{array}{l} \text{had had} \\ \text{have had} \\ \text{had} \end{array} \right.$ the money I should have paid you.

And at thirteen a minority still were unable to select the correct tense in the following:

7. *Mr X was married in 1920.* In 1930 he might have said
that he $\left\{ \begin{array}{l} \text{had been} \\ \text{has been} \\ \text{was} \end{array} \right\}$ married for ten years.

Certainly few children make spontaneous use of tenses like the expanded forms of the past perfect or the future perfect. Perhaps one of the advantages which comes from the study of a foreign language is that thereby children become accustomed to thinking in terms of the less familiar tenses. It is true, however, that languages differ in their power to express the relation of events in time. French, for example, has more tenses than German. The Semitic languages are still less expressive of aspects of time through their verb-forms; like the older Indo-European languages they emphasize more the duration of actions, whether instantaneous or not, completed or not, permanent or transitory, performed once or repeatedly, resultative or non-resultative, and so on. Still, how many other languages, besides English, have

been able to say "I shall have been living here three years to-morrow"?

It may be added in passing that, apart from what is gained from active experience and through the learning of a second language, not a great deal can be gleaned from the grammar books on the subject of reported speech except the printers' rules about the use of quotation marks (inverted commas). Some of the more important matters are omitted altogether—*e.g.*, the grammar books usually omit to deal with the circumstances which will decide whether direct speech or indirect speech is the more desirable form to employ, surely not a negligible point.

12. TWO VARIETIES OF THE SAME LANGUAGE

We have now arrived at the stage in the child's linguistic development where colloquial and literary forms of sentence-construction begin to be distinguished in his mind and practice. He understands what is meant if we say that a person talks like a book, and he knows that this is a doubtful compliment, since what is implied is that there is something unnatural and stiff about the language of books when used in ordinary conversation. It is true that few writers to-day sit down to compose in a manner that makes their sentences flow like the periods, say, of Gibbon or Dr Johnson. The latter, for example, used a form of diction for conversation, as reported by Boswell, different from that which he employed in writing *Rasselas*, though even in his everyday talk he was apt, as Goldsmith put it, to make his minnows speak like whales. No doubt the feeling that literary language is usually a little too choice for constant use makes us a little shy of employing it in conversation, except, perhaps, when we wish to be facetious. The person who frames his sentences with extreme care and chooses his words with noticeable precision can make social intercourse extremely tiresome; we cannot but think that he is more concerned with how he talks (and that means with himself) than with what he says.¹

¹ Sir Max Beerbohm has made the superiority of the spoken word to the written word quite plain. "Writing, as a means of expression, has to compete with talking. The talker need not rely wholly on what he says. He has the help of his mobile face and hands, and of his voice, with its various inflexions and its variable pace, whereby he may insinuate fine shades of meaning, qualifying and strengthening at will, and clothing naked words with colour, and making dead words live. But the writer? He can express a certain amount through his handwriting, if he write in a properly elastic way. But his writing is not printed in facsimile. It is printed in cold, mechanical, monotonous type. For his every effect he must rely wholly on the words that he chooses, and on the order in which he ranges them, and on his choice among the few hard and fast symbols of punctuation. He must so use these slender means that they shall express all that he cannot express through his voice and face and hands, or all that he *would* express if he were a good talker." (*Yet Again*, London, Heinemann, 1923.)

Whether two such varieties of the same language ought to exist side by side is nowadays questioned. Some persons would maintain that with our ever-increasing familiarity with newspapers, magazines, novels, and books of reference the two must eventually become one, partly through the absorption of many of the idioms of conversation into the written language of the day, and partly through the influence of literary constructions on current speech. Coleridge, it may be remembered, said that "literary prose (at least in all argumentative and consecutive works) differs and ought to differ from the language of conversation."¹ There is also the rhetorical kind of language, affected by public speakers, which aims at arousing feeling, and the diction suited for expressing and arousing feeling is not usually the most effective for conveying information; indeed, used for the latter purpose, it may easily mislead. In fact, it has been remarked that the language of Gibbon, splendid and impressive as it can be at its best, is a language in which it is difficult to tell the truth. Children who are taught less than well may easily come to think that fine phrases, however employed, can be no demerit in their speech or writing, that, for example, to speak or write of the seaside at Southend as a place where there are golden sands and an azure main is quite the right thing to do. But leaving insincerity aside, it may well be that for most of us the circumstances of speech and writing will usually be different enough to lead us to distinguish between words and phrases which it would be mere affectation to transfer from one sphere of use to the other, between the diction best suited for formal, ceremonial, or public occasions and the language of everyday intercourse.

13. THE INFLUENCE OF THE GRAMMARIAN ON SPEECH

Foreign language study has considerably affected the manner in which the English language is being used. Thus, Dryden and Gibbon were great writers who were influenced in their way of writing by their knowledge of the classics. In Dryden's case one of the results was a firm belief that it was wrong to end an English sentence with a preposition. Consequently he set about ridding himself of this "pernicious" habit. "I am often brought to a stand," he said, "in considering whether what I write be the idiom of the tongue, and have no other way to clear my doubts but by translating into Latin." So he proceeded to do what our greatest writers, whose criterion is good common usage, never do; the prepositions which he found at the ends of his sentences

¹ *Biographia Literaria*, Chapter 18.

he brought back and placed immediately before the relative pronouns to which they referred; and, ever since, the pedant has followed his example, regardless of circumstances. But as the philologist, Sayce, wrote, "The attempt to find the distinctions of Latin grammar in that of English has only resulted in gross errors and a total misapprehension of the language."

Other examples of expressions finding popular favour which are due to a greater knowledge of Latin than of English are to say *averse from* instead of *averse to*, *different from* and not *different to*, and in *the circumstances* instead of *under the circumstances*. It is also commoner than it was to bring together the parts of a compound verb—e.g., *bring in*, *take off*, *put out*, etc., which have a single word corresponding to them in some foreign language, so that an English construction like *Take your hat off* tends to become Frenchified into *Take off your hat*.

Another result of the spread of this kind of influence is that idioms which fail to pass the test of the grammatical purist are being frowned on. To say, for instance, *I thought to myself* is apparently open to objection, because *to myself* is quite unnecessary. *I believe, personally*, is equally faulty, since there is no other way of believing except personally. Again, *hence*, *thence*, and *whence* have been declared to be equivalent to *from here*, *from there*, and *from where*; so that Edmund Gosse was able to object to Siegfried Sassoon writing *from whence*, though, as the *Oxford English Dictionary* shows, Wycliffe and Pope used the expression as good English long before it became suspect by the grammarians.

Nevertheless, the constant analysis which a living language undergoes by those who use it cannot but improve it as an instrument of precision, and this process of analysis is a process which cannot in the long run be checked.

14. THE INFLUENCE OF ELEMENTARY EDUCATION ON SPEECH

Another powerful influence has also been at work. The effect of education upon the children who have passed through the public elementary schools has frequently been unfortunate until recently. In many districts there has been so marked a difference between the standard English taught in the schools and the dialect acquired outside that large numbers of children have grown up with the notion that there are two kinds of English, one good, the other bad, the latter being what they are accustomed to hear at home and in the streets. The London child who finds it second nature, for example, to use such forms

as *You was, I see him yesterday, and I ain't got no money*, does not find it easy to escape developing a sense of inferiority about his native speech when his 'errors' are constantly rubbed in. Feeling none too sure of himself, he is apt to pay greater attention than he should to those who lay down the law about what is right and what wrong in his speech, and in his anxiety to be correct he will often go too far in the direction of using literary forms where the vernacular would have served him better. Sometimes the two styles get mixed, as, for example, in such Cockneyisms as "They've got a secret *which* I've not been able to discover what *it* is," and "Who when you came to look into it you will find *him* to blame," where the relative pronoun, employed because it is felt to be a sign of education, is an alien intruder into patterns of speech that do not require it.

It may be added that the desire of the badly educated to appear well educated is partly responsible for the spread of pomposity in speech. To use colloquial phrases seems to some folk to show that one is occupied in trivial affairs. A Brighton policeman, for example, said recently that *in consequence of a statement having been communicated to him he looked up and observed a motor-car proceeding towards him*. What had actually happened was that some one had grabbed his arm and shouted *Look out!*

Another effect of the sense of inferiority produced in those who have been made to feel that their own forms of speech betray their low breeding is seen in the desire to make ordinary affairs and events seem more important by speaking of them in the language of advertisers and salesmen. It should not be difficult in the senior school to show this sort of practice up for what it really is by getting children to examine critically all the examples of it that come their way and then rewrite them in plain everyday terms. By skilled teaching children will soon feel that to use such language habitually is to be insincere, if not consciously dishonest.

15. TRAINING IN CLARITY AND PRECISION

The first principle to apply in speech training is neither plainness nor formal correctness, important as these are, but clarity, a respect for which should be an outstanding feature of all the language work of senior school pupils. We mean by clarity the use of words in a manner which can be clearly understood by a person hearing them or reading them in good faith, as distinct from the precision of the lawyer who must aim at using words in such a manner that any person with a desire to misunderstand cannot possibly misunderstand.

What is implied by the principle of clarity in the field of

vocabulary is the power to explain what is meant by terms which are being habitually employed in school work, and by an increasing ability to discriminate among synonyms and synonymous expressions. In continuous speech its application will be seen, as a result of the constant insistence by the teacher, in the clear formulation of ideas, the pupils being forced always to say exactly what they mean. Thus, an essential practice with boys and girls must be that of compelling them to face questions fairly and squarely and deal with them without equivocation. The value of a training in this direction was often emphasized by Thring of Uppingham.¹

A boy ought never to be permitted to answer any question but the one he is asked—*e.g.*, if the boy says *vicērunt* and the master asks "What did you say?" the boy must be made to say *vicērunt* and not be allowed to change it to *vicērunt*. . . . In like manner, for it is part of the same aimless straggling, no commoner fault occurs than the no-answer-at-all—*e.g.*, the master asks, "What case is *tempora*?" The ordinary boy, as likely as not, replies, "It is a noun." Very true, but that is no answer. It cannot be too strongly impressed upon boys that there are only two kinds of answer, a right answer and a wrong answer.

In the same way boys and girls should be taught to respect the principle of precision in using their own language; they should realize the impropriety, for example, of defining an object in terms of an event; thus, when asked what a *scald* or *burn* is they should be severely discouraged from framing the sort of answer that begins, "It is when you. . . ." It is good teaching technique to adopt the attitude of the person against whom the lawyer has to guard himself, the person with a desire to misunderstand, and deliberately draw a logical inference from an inaccurate answer in order to show it up for what it is. Great amusement and good training can also result from setting an exercise in the description of a familiar object or mechanism, and following it by asking a person hearing the description to represent in a drawing exactly what has been said. The value of clarity and precision may then be brought home vividly to those whose descriptions have rightly produced ludicrous results.

In addition to learning to use words with some precision of meaning for intellectual purposes, every child has to learn to

¹ Edward Thring, *Theory and Practice of Teaching* (Cambridge University Press, 1883). Cf. the following from the *Gorgias*:

SOCRATES. When Chærephon asks in what art Gorgias is skilled, you merely eulogize his art, as though it were under some censure, instead of replying what it is.

POLUS. Why, did I not reply that it was the finest of arts?

SOCRATES. You certainly did; but nobody asked you what was the quality of his art, only what it was.

choose nicely among synonymous expressions when he needs the one which is best suited to the social situation in which he may find himself. For instance, he may wish to ask some one to close a door for him. The form of words which he may select will depend, of course, upon the range of his knowledge of alternative forms, upon the relation he stands in to the person he addresses, and to some extent, too, upon his own mood. Below will be found a short test designed to make this point clear. Seven situations are verbally presented, together with seven modes of address. The child tested has to match each situation with the most appropriate form of address. In such a test situation children who blunder frequently in their dealings with others do badly as a rule. Girls, as may perhaps be expected, get higher marks than boys, while children under the age of eleven usually fail to get half marks.

SUITING THE OCCASION

Study carefully the following ways of asking a person to close the door:

- (A) Please close the door.
- (B) I wonder if you would mind closing the door for me.
- (C) Close the door, dear, please.
- (D) For goodness' sake, close the door.
- (E) Mind you close the door after you.
- (F) Close that door!
- (G) Don't you think you ought to close the door?

Now write down the letter A, B, C, etc., which shows the sentence you would choose to suit the following occasions.

Give each sentence a different letter.

- (1) When you give an order rudely.
- (2) When some one is likely to be forgetful.
- (3) When a fidgety child has irritated you by playing with the door.
- (4) When you wish to give an order politely.
- (5) When a child is being addressed by a kind mother.
- (6) When you are speaking to a forgetful person who should have known better.
- (7) When you are loaded with parcels and cannot close the door for yourself.

RESULTS OF GIVING THE ABOVE TEST TO 227 CHILDREN OF 10 PLUS

—	7	5	4	3	2	1	0
Percentages of children who have the stated no. of right answers . .	5	16	21	20	20	12	6

16. SUPPOSITION AND HYPOTHESIS

In tracing the development of the free expression we have touched, so far, upon (a) the simple type of sentence needed for the matter-of-fact description of objects and events, and (b) the more complex type of sentence, often used to describe the various possible relations among the objects, ideas, or events described. In addition, a third type of sentence will become increasingly needed as children find themselves attempting to talk about what exists only in their minds and in the form of general ideas. The simple statement of what we find existing in the mind at any moment may call for no fresh forms of sentence, but when we suppose *this* or *that* general truth or state of affairs and go on to imagine what should follow from our assumption we are on another mental level. We are indulging in that more difficult kind of thinking where the condition and the consequence are imagined as coexistent; and in talking about our thoughts at this level we frequently feel the need of expressing what is in our minds "at one go"—i.e., in a single sentence. Such a sentence will normally consist of two parts representing (a) the ground and (b) the consequence of our act of imagination, and they will usually be linked together by some such connectives as *provided that*, *unless*, or *although*.

We have already indicated that the word *because* (and, we may now add, the words *if* and *unless*) may be used by young children at the practical or concrete level of thinking for which the mental age of seven years is sufficient. The child who can use *because* as the correct introduction of his reply when his mother asks him a question beginning "Why . . ." will usually be at a loss, unless he has reached the mental age of seven, in describing a picture showing the child crying because a dog has taken his shoe, for the simple reason that he has not yet grasped the idea that a reason can always be looked for whenever some one is found crying. Similarly, the child who is able to make use of the word *if* in such practical emergencies as bargaining (for example, *If I give you this sweet will you come and play with me?*) may not be able to use the same technique in dealing with the abstract and non-temporal, and so may not be able to draw the correct inference from such a statement as *If France is farther south than Scotland then . . .*, because he has not developed far enough or learned sufficient to have grasped the general rule that places nearer the equator in the northern (and in the southern) hemisphere usually have a warmer climate.

When, however, we find children able to deal with ideas of a general kind, in the absence of concrete aids to their thinking,

and talk about them in complex sentences, with connectives of the *unless* and *although* type to link their separate parts together, we may be sure that they are beginning to manifest that maturity of intelligence and aptitude for language which, with continuous practice in hard thinking and precise expression, will bring them as near as they can hope to get to the highest intellectual and linguistic level of development possible to them.

17. THE CONNECTIVES 'BECAUSE' AND 'ALTHOUGH'

We have shown that the word *because* is used as a rule before the mental age of seven to introduce statements in support of ideas and of conduct for which reasons are demanded. "Why did you do that?" and "What makes you say that?" are the sort of questions that produce at first little beyond the reply, "Because I did (*or do*).". The connexion between the deed or idea and that which preceded it is usually loose and casual; it is not causal. The child has not learned that there are general rules which can be formulated about the behaviour of things and persons. This is proved by his inability to deal with those words which express the idea of exceptions to rules. As Piaget says, "For there to be exceptions there must have been rules, and if the child fails to understand the fact that there are exceptions it is because he has never formulated any rules."¹ Thus, the same children who in one school had given sensible answers to questions requiring the correct use of *because* to the extent of 50 per cent. at the age of six plus were given the following sentence to complete: "I love my mother, although . . ." The sensible answers produced at the same age amounted to no more than 10 per cent.

The gradualness of the development of the ability to recognize the proper occasions for the use of the word *although* can be shown diagrammatically. Here are the percentages of correct answers produced by 3155 children between the ages of seven and fifteen in a test calling for the completion of the ten sentences set out below:

- (1) Jack smacked my face, although . . .
- (2) I had my bath yesterday, although . . .
- (3) Mary played in the street, although . . .
- (4) I love my mother, although . . .
- (5) Apples are cheap to-day, although . . .
- (6) Mr Jones fell off his bicycle to-day, although
- (7) It rained hard this morning, although . . .
- (8) Tom took my ball from me, although . . .

¹ *Op. cit.*

- (9) Joan was late for school to-day, although . . .
 (10) She did her best in the exam., although . . .

The curve speaks for itself. Not until the age of nine is reached do 50 per cent. of the children begin to use the word *although* correctly. It is perhaps necessary to add that the children tested

Per Cent.

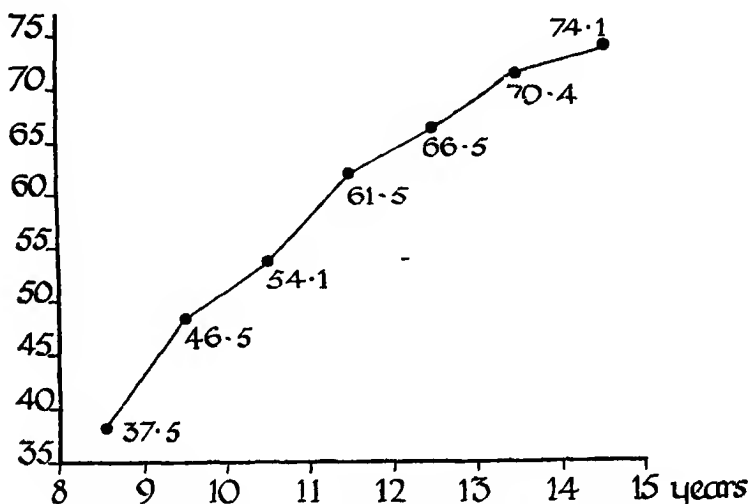


FIG. 4. GRAPH SHOWING PERCENTAGES OF RIGHT ANSWERS IN THE 'ALTHOUGH' TEST

were not so completely representative of the ablest children as those who worked the test to be described next.

18. OTHER CONNECTIVES

By way of further exploration of the facts of development in this direction the present writer has used a test¹ calling for the completion of a number of unfinished sentences broken off at the point where a connective has just been introduced. The correct completion has to be selected from among four phrases offered as possible. When completed properly these sentences are seen to consist of two parts linked up by a connective word or phrase of the kind which we have been considering. The following example will serve as an illustration:

¹ See Appendix II, 2(3), pp. 302-305.

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Underline the words which make the best ending for the following unfinished sentence:

I shall not be able to do my sums unless

- (a) My exercise book is full.
- (b) You help me.
- (c) Multiplication is very hard.
- (d) I forget my tables.

Three hundred and seventy children between the ages of seven and a half and eleven, divided into half-yearly groups, were given fifty questions of this type. The curve of accuracy obtained from the results is set out below. It will be seen that by

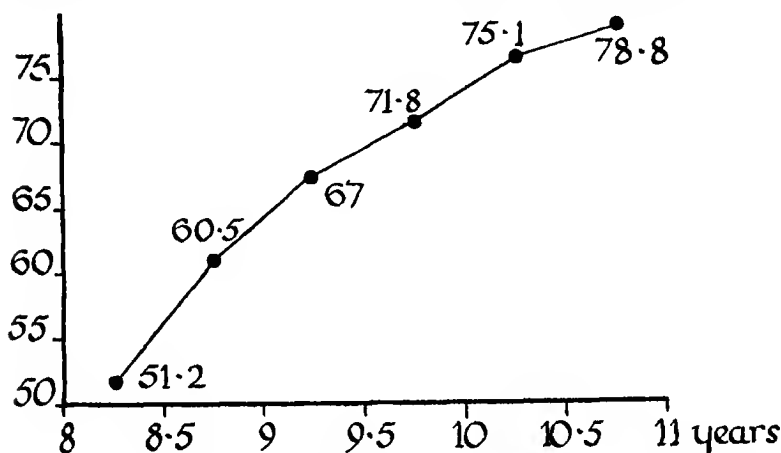


FIG. 5. GRAPH SHOWING PERCENTAGES OF RIGHT ANSWERS IN THE 'OTHER CONNECTIVES' TEST

the age of 8 *plus* 50 per cent. of the answers are correct, and that two-thirds of the answers are correct by the age of 9 *plus*. The schools where the test was set were two very good schools almost wholly attended by bright children from good homes.

19. STAGES OF ADVANCE IN THE MASTERY OF FREE EXPRESSIONS

We are now able to set out, though still tentatively, the stages which children pass through in their progress towards the mastery of the various forms of free expression represented by the English sentence. We shall confine ourselves to dealing at the infant school level with those free expressions which are useful in speaking of objects and events in the external world, at the

junior school level with those required in describing the relations between separate objects and events and also between simple ideas, and at the senior school level with those needed in expressing thoughts of a more complicated pattern. The criterion is *form*.

The Infant Level

Stage One. Children learn first to name things that interest them, and in their second year to add a word, when naming a thing, by way of comment upon it. Thus they may say *milk—gone* when they have finished drinking their milk, or *mama—up* when they want to be lifted up.

Stage Two. Children learn next to speak of relations observed between two things in space, by using (a) a transitive verb (at first, of course, without inflexion), or (b) a word which does duty as a verb (like *up* as quoted above). So a child may say, *Dog—hurt—baby*, or *Baby—down—floor*.

Stage Three. At this stage children learn to add a prepositional phrase in speaking of any of the Stage Two things. Thus they may say, *Baby put ball under chair*.

Stage Four. Here the first complex sentence appears—for example, with a temporal clause introduced by *when*: *When I go you come too*. At this stage the child learns to employ his verbs, nouns, and pronouns with correct inflexion.

The Junior Level

Stage Five. This brings us to the point at which two statements of the Stage Two and Three type are brought together and a relationship noted between them. For example, the child may say, *I will put my coat on, because the wind is cold*.

Stage Six. Complex sentences with noun clauses now appear—for example, *Come and see how big the snowman is. I thought it would*.

Stage Seven. This stage shows the child's further progress in constructing complex sentences, particularly those involving the use of adjectival clauses with relative pronouns—for example, *Do you see the part that's in the water? That was the man who took my ball away*. Conditional clauses in sentences which deal with everyday situations are also now in evidence—for example, *If I had a shilling I would buy you some sweets*.

Stage Eight. The child can now use the relative pronoun as the object in a subordinate clause of a complex sentence—for example, *I have a cat which I feed every day*. It should be added that the brighter children at this level are able to frame complex sentences, when needed, containing both *when* and *if* clauses, *if* and *because* clauses, and *when* and *because* clauses.

The Senior Level

Stage Nine. At this stage children show that they are able to relate particular ideas and truths to more general ideas or truths. For example, they are able to frame sentences using connectives, like *although*, which imply a familiarity with the general truth to which they are stating an exception.

Stage Ten. Finally, they show by their various forms of expression that they are able to frame hypotheses and state what follows from their adoption. This involves the use of complex sentences containing subordinate clauses of concession introduced by connectives like *provided that*, *nevertheless*, etc.

The following table may be interesting as representing an attempt to show the stages of speech development in terms of *content*:

At each stage in his speech development the normal child, where his interests are engaged, will show increasing power and precision in his ability:

- (1) To use words to draw the attention of others to his needs and wishes.
- (2) To talk aloud to himself as he does things, as though to make clear to himself what he is doing or thinking.
- (3) To ask questions continually, as much for the sake of asking them as for the replies that he may receive.
- (4) To answer questions requiring simple and direct answers.
- (5) To attempt some form of conversation, though at this stage it is talk in the presence of others rather than to others.
- (6) To interject comments (usually irrelevant) into the remarks of others.
- (7) To address his companions directly now and again, but mainly for his own satisfaction.
- (8) To talk to adults about other children—for example, in 'tale-bearing.'
- (9) To carry simple messages correctly.
- (10) To answer questions requiring a measure of thoughtful statement.
- (11) To ask sensible questions about what has been or ought to be done.
- (12) To take pleasure in repeating striking remarks heard, or interesting phrases or sentences read.
- (13) To retell a story heard or read.
- (14) To make sensible contributions to lessons given and subjects discussed in his presence.

- (15) To take part in discussions in class or with grown-ups without embarrassment.
- (16) To help others who may be in difficulties to express their ideas clearly.
- (17) To relate a story of some length in sentences of varied complexity of construction.
- (18) To describe objects and explain processes with due attention to logical sequence.
- (19) To talk freely and easily, using the special terminology of subjects that have been studied in books.
- (20) To recapitulate the steps of a logically presented argument.

20. CONCLUDING REMARKS

We have now reached the stage in our study of the child's increasing mastery of his language when we can transfer our attention, with greater hopes of being able to measure his progress adequately, to his written exercises. But before doing so we may perhaps close this chapter by referring to two distinctly different practices commonly employed by teachers in training children to express themselves linguistically.

Mr Winston Churchill is said to have advised a young friend of his who was anxious to improve himself to use his mind not as an ammunition-wagon but as a quick-firing gun. The modern practice of encouraging children to talk freely and ask questions about anything and everything whenever they feel inclined to do so seems to be based on the principle that the art of quick-firing must be developed from the start and at all costs. The old-fashioned view that little children should be seen and not heard would appear to be based on the contrary principle that wagon-loading (*i.e.*, collecting ideas and building up a vocabulary descriptive of them) is the chief business of childhood. Clearly, it is natural for healthy young children to talk freely and without inhibition, and they should be encouraged to do so. But older children ought to have developed past the chatterbox stage, and such unintelligent forms of chatter as they indulge in need no encouragement. It is a matter of age how we ought to proceed.

The best teachers know that they have no option but to attend to both wagon-loading and quick-firing. Mental development tends to be an all-round and continuous affair, no one kind of activity going on for long in isolation or without interruption; those who would always be talking are apt to leave themselves no time for reflection. In the minds of children, as in adults, the load of experience becomes linked up with the language best suited to describe it when the opportunities for discussing its

meaning and value are present, and when they are constantly led to feel that what they say will be appreciated most warmly when sensible in itself and sensibly expressed. In the words of Professor Lloyd Morgan:

A discipline in language, a discipline in the thought of which language is symbolic, and a discipline in the application of both thought and language to what is within the range of experience are so closely related that they should be regarded as diverse aspects of the same process.¹

¹ Lloyd Morgan, *Psychology for Teachers* (London, Edward Arnold, new edition, 1909).

The test described at p 80 was suggested by the reading of pp 152-153 of *The Psychology of English*, by M M Bryant and J R Aitken (New York, Columbia University Press, 1940)

CHAPTER IV

THE ABILITY TO READ

I. TWO PROBLEMS FOR THE TEACHER

For private and public reasons alike children must learn to read, for where the ability to read is not general the maintenance of a high level of civilization is hardly possible, and where the power to get enjoyment and information from books is lacking the development of a satisfactory personal life is unlikely to be realized.

It is widely assumed that practically all children can be taught to read, though nothing more may be meant than that they can be taught to utter the right noises when confronted with printed words and asked to translate them into sound. Such mechanical reading, or "barking at print," as Sir John Adams used to call it, involves little more than an ability to make habit associations between printed symbols and vocal noises, a result that may be brought about by brute repetition of a given stimulus together with the appropriate response. An ability to utter the right noises at the proper cues must, therefore, be distinguished from the genuine thing, the ability to read with understanding and appreciation.

Whether it is reasonable to expect all children to have acquired the ability to read in the genuine sense by the time they have reached the school-leaving age is a matter of some doubt. Reading is not a simple skill, like writing, which, once learned, can be increased automatically. It may be practised at different levels of difficulty with the result that the existence of the ability to read well at one level is no guarantee at all that an equal ability will be manifested at a higher level, or even at the same level in another field of interest. When we say, therefore, that a child has been taught to read we ought to make it quite clear what it is we mean. Certainly, if we take reading to mean something more than 'saying the words,' the results of our systematic instruction over a period of some nine years of child life during the past half-century have not been altogether satisfying; indeed, there is ground for the fear that we may be training the vast majority of our children just well enough to enable them to occupy themselves with the tawdriest reading material and yet not well enough to ensure that they will wish to enter into and enjoy their rightful intellectual and spiritual heritage, or even that they will be able to withstand the word-magic of the advertiser and the propagandist. Consequently

the great reading problem is to know how to cultivate in children the power of being able to grasp the significance of what is placed before them in print, to judge of its value, and make the best use of it.

Mental development, in so far as it is reflected in reading ability, will be revealed accordingly in two ways: in an ever-increasing mastery of the mechanical difficulties of word-recognition, a mastery which will be manifested in one of its aspects by speed and accuracy in oral delivery, and in a power of being able to use books of increasing difficulty for the purpose of finding and seizing a writer's meaning, both in its general intention and in its precise significance.

2. THE BEST AGE FOR BEGINNING TO LEARN TO READ

Professor John Dewey once maintained that eight years of age was the best age for children to begin to learn to read, but this was more than forty years ago. To-day we should say that chronological age is less significant than mental age in determining reading ability. John Stuart Mill was only an extreme instance among large numbers of children who have learned to read well long before being sent to school. The truth is that the age at which children first learn to read depends partly upon how far they have matured mentally (a matter of intelligence as well as chronological age) and partly upon how far their environment has helped to make the art of reading a desirable thing to acquire. The Board of Education Consultative Committee's Report *Infant and Nursery Schools* (1933)¹ contains a reference to an American inquiry from the results of which we ought perhaps to conclude that there is one best age for all children to begin to learn to read, the age of six and a half.² But we can accept this conclusion as a sound one only by (a) ignoring the intellectual potentiality and (b) disregarding the nature of environment. For where a child is unlikely to reach a mental age much in excess of six and a half, or where his linguistic background is so poor that the reading habit hardly exists among his parents and their grown-up friends, and where, moreover, extended conversation of an intelligent kind is seldom heard in the home, there may be no desire to learn to read long after the mental age of six and a half has been reached. Where, however, the linguistic

¹ P. 133.

² M. V. Morphett and C. Washburn, "When Should Children Begin to Learn to Read," *Elementary School Journal*, xxxi, 496-503. The Consultative Committee's own conclusion about reading (and about the other fundamental scholastic skills as well) is that "the child should begin to learn the three R's when he wants to do so, whether he be three years of age or six."

background is so favourable that it has enabled children to become familiar at an early age with a wide range of nursery rhymes, everyday sayings, and folk-tales, and to talk with some fluency and directness, the desire and the ability to learn to read will usually appear considerably before the age of six and a half.

We may say, then, that the age at which a child will wish to learn to read will depend on his intelligence, his home, and his teachers. The intelligent child from a good home where there is a good reading tradition will learn to read quickly whatever the method employed in teaching him; in fact, in many cases he will hardly need method at all. The intelligent child from a home which is poor in its linguistic resources will learn to read as soon as he realizes the value of being able to do so; and this will not take long in a sympathetic school environment. The dull child from a good home will learn to read, if persevered with, even along comparatively unenlightened lines, because he will come to understand sooner or later that to read will be a necessity to him and that not being able to read will probably be thought pretty deplorable by his friends. It is the dull child from the low-grade home, where little reading is done and where little improving conversation is heard, who constitutes the teacher's constant problem. It is he who is responsible for the unending succession of new primers and fresh methods of instruction; and teachers fail, as a rule, with this type of child whenever they begin formal instruction before the indispensable preliminaries have been satisfactorily got over.

3. SIGNS OF READINESS FOR INSTRUCTION IN READING

The experienced onlooker will usually know when the child is actually ready for some kind of instruction in reading. In a reasonably good environment this readiness appears at its strongest somewhere round about the mental age of five and a half to six. At this age the child shows an unmistakable interest in having stories told to him, in exploring picture-books and asking about their letterpress explanations, and in wanting to know the meaning of the printed signs and advertisements in the streets and other public places. He will inquire what this or that word is which has caught his attention, or where this or that interesting phrase appears on the page which he has heard read to him. At the same time he may pretend that he himself can read, and hold up a book or paper in front of him, often upside down, and either repeat from memory something he has previously heard read, or pour out streams of jargon which have all the characteristics of oral reading except sense.

It will be agreed that we should foster this desire to learn to read the moment it appears. Where it has not done so in a favourable environment by the age of five and a half or six most teachers feel that they ought to be taking steps to arouse it. What these steps should be we have already indicated. It is when children see grown-ups actually getting value from reading that they themselves will want to read; when they see their friends enjoying reading they will begin to understand the point of being able to read; when they realize that one can tell what a picture is about, by looking at the words underneath they will begin to want to find out what such words say; when they discover that the interesting stories they hear come from books they will be moved to an interest in books; when they discover that notices displayed publicly can help a person to know what to do in certain circumstances they will become curious as to how these notices can be interpreted. In short, a child cannot hope to learn to read until he has developed the sense that printed words will help him to understand pictures better, to know frequently what to do in shops and streets, and to enjoy stories for himself without assistance from his elders. It may also be added that a child who lacks the power to listen attentively to what is said to him, or who is unable to repeat and (if required) develop a simple sequence of words which he hears, cannot be regarded as being ready to find any meaning in print.

It is important to realize that backwardness in reading in later childhood can seldom be ascribed to a single cause. A successful diagnosis in any given case will usually reveal among others such causes as the following to have been operating: intellectual immaturity, social inexperience, emotional handicaps of the kind shown by shyness and timidity or the absence of any desire to learn to read, defects of sight or hearing or articulation, unsympathetic emphasis on phonetic drill at too early a stage, and frequent or prolonged absence from school at critical periods in the learning process.

4. METHODS OF TEACHING READING IN THE EARLY STAGES

In the past twenty years or so there has been an increasing disposition among teachers to make the first approaches to reading much less formal and much more entertaining than they used to be. The desirability of keeping the child's interest in reading equally fresh and active after he has overcome the initial difficulties of word-recognition is not so often borne in mind.

From time to time various methods of teaching the elements

of reading have been adopted. In the early days of the English infants' schools the two outstanding methods followed were the traditional Alphabetic or Spelling method and the Look-and-say; or Word method, which originated with Comenius. A child, for example, was taught to look at the word C A T and either say C A T without more ado, having recognized it correctly at sight (*Look-and-say* or *Word* method), or go through the process of naming the separate letters as SEE AY TEE, and following this by saying C A T (*Alphabetic* or *Spelling* method), having, of course, learned to recognize and name the letters of the alphabet before being allowed to advance towards the learning of complete words.

When the Look-and-say method, as a method of teaching reading rather than spelling, had nothing but the Alphabetic method to contend against it usually won the day, but as soon as Phonic methods were introduced,¹ which aimed at teaching children a knowledge of the sounds of letters as well as their names, so that they could be taught to blend the sounds of the separate letters into a single word, thereby gaining a technique which enabled them to forge ahead and learn to pronounce new words without assistance from their teachers, both the Look-and-say and the Alphabetic methods lost ground rapidly. For many years Phonic supremacy was unchallenged in this country, but it was gradually realized that a considerable proportion of our words are unphonetic, with the result that the best method was felt to be a mixed one: the regular words were taught phonetically and the irregular words by Look-and-say. Recently a controversy has broken out between the advocates of the various methods on account of the fresh support lent to the Look-and-say school by the advocates of the Sentence method.²

5. THE SENTENCE METHOD OF TEACHING READING

The Sentence method of teaching reading is claimed to be a good one, because it follows natural lines. Its advocates remind us that people speak, as a rule, not in single words but in words used together to make sense, and in view of this they maintain that when teaching children to read we ought to begin with the statement of simple ideas in sentences, to attend next to phrases and words, and after that, rather than before, to analyse words into sounds and learn the names and shapes of the letters required for writing them.

¹ The Phonic Method is said to have been invented (c. 1900) by Nellie Dale, a teacher at Wimbledon High School.

² A book was published in America on *The Sentence Method of Teaching Reading, Writing, and Spelling*, by G. L. Farman, as early as 1881, but the method was not popularized in England before the 1920-30 decade.

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A good Sentence method course of instruction in reading does not begin with sentences from books but with certain interesting sentences which the children have used or heard spoken naturally in the course of classroom activities and experiences. Preferably these sentences will be short and easily memorized. The sentences selected will also be such as may usefully be written by the teacher on large sheets for the children to see, and without emphasis at this stage on the necessity for reading them. The next step is for the teacher to encourage the children to read and copy sentences for themselves. Only when this has become a familiar proceeding will reading-books be introduced. These will deal with topics that interest the children and be written within the limits of a severely restricted vocabulary of useful words frequently repeated. The number of words in a first reader may vary from 50 to 150, and each word may be repeated from seven to twenty times so that it may be learned by sight. The following table shows the number of words and the average number of times each is repeated in five first books, written on Sentence method lines, which have been popular in English schools:

BOOK	TOTAL WORDS	NUMBER OF WORDS DIFFERENT	AVERAGE REPETITION OF EACH WORD
No. 1 . .	1116	150	7.4
No. 2 . .	957	117	8.2
No. 3 . .	1376	101	13.6
No. 4 . .	921	57	16.1
No. 5 . .	1246	61	20.4

The variations are striking, but no compiler has thought it necessary to justify his own selections. Whether, for example, an average per word of 7.4 or 20.4 or something between represents the most suitable amount of repetition for the learner still remains undetermined. Much depends, no doubt, on the learner's intelligence and the quality of the writing. On the face of it, primers No. 4 and No. 5 would seem to be the best of the five for slow learners, on account of their high word-frequency, and primers No. 1 and No. 2 best for quick learners, for the opposite reason.

6. THE SENTENCE APPROACH VERSUS THE PHONIC APPROACH

It is not usually disputed that the Sentence method makes for interest and enjoyment in the early stages. The child is not called upon to face the drudgery of ploughing through pages

of dull matter of the *pig-in-a-wig, cub-on-a-tub* variety. The average Phonic primer consisted of pages of matter without a great deal of interest for children, pages which made just as much sense when read from the bottom upward as in the usual way. Teachers relying on such books were obliged to become not so much educationists as drill-instructresses. All that was demanded of a child was that he should have the abilities of a good performing animal and be able to learn to bark correctly at the appropriate signal. Whereas the Sentence method leads the learner to regard print as a vehicle for communicating ideas, children brought up from the start by Phonic instruction are apt to become so absorbed in the task of analysing the separate words in an unfamiliar passage, letter by letter, and syllable by syllable, in order to sound them correctly, that little energy is left for seizing the meaning of all they have been reading. It must not be forgotten either that oral reading (emphasized to a greater extent in the Phonic approach than in the Sentence approach) is more difficult than silent reading, since it requires the ability not only to seize meaning but also to present it intelligibly to a listener.

It would appear, therefore, that too much attention to phonics at the outset may divert the child's mind from the sense of what he sounds so laboriously, and this will rob the reading activity of much of its enjoyment. On the one hand learners introduced through the Sentence method look for enjoyment from the outset; they never become mere barkers at print, uttering words, one at a time, without phrasing, in an unnatural voice. Certainly, phonically taught children, who have missed the Sentence approach, do this kind of thing only too frequently; moreover, when taught less than well they are apt to build up unfamiliar words by analogy—e.g., on the principle that as *b-u-t* is sounded as *but*, so *p-u-t* should be sounded as *putt*, or as *b-o-n-e* is sounded like *b-o-a-n*, so *d-o-n-e* must rhyme with it and be sounded as *doan*; and so on. On the other hand children of less than average intelligence who have been taught by the Sentence method too often become mere memorizers ('parrot readers') and so are helpless in the face of unfamiliar words, for they lack the power which Phonic instruction would have given them (provided, of course, they were mature enough to profit by it), the power of analysing difficult words into their constituent sounds and resynthesizing these again into complete words.

7. THE PHONIC STAGE

After the first stages (so well suited to the Sentence method) have been safely negotiated it is not easy to carry on continuously

along Sentence method lines. As children call for more and more reading material they come upon more and more words which differ only slightly in appearance from those already learned, and the new words, moreover, are apt to occur less frequently, since reading-books cannot all be kept at the same level of simplicity as first primers. Children will, therefore, need to acquire a technique for distinguishing at once and with certainty between words that resemble one another in some way—*e.g.*, *play* and *pray*, *sing* and *sang*, *pan* and *pane*, *board* and *broad*, *curtain* and *certain*, and so on.

Phonic instruction is consequently indicated as a necessary second stage in the teaching of reading to most children. With the knowledge of a hundred or two hundred words which have been learned by sight, every normal child of six and a half is ready as a rule for phonic instruction. The practising teacher will be familiar enough with the stages usually followed, beginning with the observation of similarities and differences between short words nearly alike (*e.g.*, the similarity of the end-sounds in *bat*, *cat*, *fat*, *hat*, and *mat*, and of the initial sounds in *cat*, *cot*, and *cut*), passing on to the discovery of the part played by the vowels in monosyllabic words (in dealing with which they will learn to recognize the short vowels first and then the long vowels), and after that taking up the analysis of longer words which will be recognized as 'built up' of syllables easily sounded (*e.g.*, *caterpillar* as *cat-er-pill-ar*).

This Phonic instruction will always proceed side by side with opportunities for reading for pleasure and for information. In the past it was not uncommon for children to be kept working at a few short books at this stage with few chances for independent reading practice. To-day we realize that the child who reads no more than half a dozen school books a year up to the age of nine or ten cannot hope to acquire the ability to master even the simplest forms of the art of reading. He needs to read abundantly and to think and talk about what he reads, because it is by reflection upon and discussion of what is read, and not by the mechanical act of reading words, phrases, and sentences correctly, that he will become a reader in the best sense of the word.

To sum up, we may say, then, that while the better method of teaching little children just beginning to read is along Sentence method lines, it will always be advisable, sooner or later, to introduce some Phonic instruction. But it is also clear that the same method, or combination of methods, may suit one type of child and not another, or suit a given type at one stage, and yet be unsuitable at another. Some children may need a great deal of Phonic drill at a particular point in their progress and be able

to dispense with it altogether later. Others may always need a little drill. Again, intelligent children from good homes will take little harm from Phonic drill in big doses, but unintelligent children from poor homes should have such drill as they need, carefully graded and well supervised. All work and no play makes Jack a dull boy; as the sole instrument in teaching reading the Phonic method tends to make an unintelligent Jack a very much duller boy.

8. THE CONTENTS OF FIRST READING-BOOKS

In judging reading-books for young children a good many points must be borne in mind. We ought, for example, to consider the nature and the degree of difficulty of the subject-matter, and the success with which it is graded; and, in the case of primers, the total vocabulary employed, its suitability and usefulness, the number of new words introduced per page, together with their frequency in later pages; and so on.

A study of the school-books which have been prepared for infants and juniors in the past century will show marked changes with the passage of time. The earliest books were nearly always of an 'improving' kind, and they were based as a rule on the belief that information in itself had cultural value. Matthew Arnold complained over and over again of the stupidity of this belief in its extreme form and as it was worked out by the writers of children's school-books. "The right way of teaching a little boy to read," he wrote in 1863, "is not by setting him to read such sentences as these (I quote from school-books lately in vogue) : *The crocodile is viviparous; quick-silver, antimony, calamine, zinc, etc., are metals*; and so on."

What Matthew Arnold thought to be the superior alternative was not the other extreme of ignoring altogether the world of everyday facts. The efforts of little children to understand the world in which they live have always led them to confuse what is relatively unfamiliar with what has an everyday meaning and appeal. Many students of child nature who have noticed this perfectly natural result of ignorance in children have mistaken it for a strength rather than a weakness; they have called it imaginativeness. We are now passing out of the period during which it was thought that children's books should be designed to develop this imaginativeness, and into a period in which books are tending once again to be more matter-of-fact and informative, but written much more successfully at the child's level. The tendency of the imaginative school of writers was to present only too often a fantastically unreal picture of the world to children

who had no means of knowing whether they were reading fact or fiction. It is possible that in our desire to be realistic and truthful we may go to the other extreme of omitting everything of an imaginative character. Consequently, where books which are used for teaching reading in the early stages are found to omit the traditional stories and verses which are the birthright of all children, care should be taken to build up a supplementary library of such stories and verses, written in a language simple enough for little children to be able to read again and again for sheer pleasure.

9. THE VOCABULARIES OF FIRST READING-BOOKS

Though it is usually taken for granted that the children should learn to read the words they most frequently use before they are set to learn less familiar words, a close examination of the vocabularies of reading primers in popular use in this country shows that at present this represents a theoretical rather than a practical point of agreement. Actually, there are two main principles which ought to govern the selection of a primer vocabulary: (1) words from standard English most frequently used by children should certainly be included; (2) some words ought also to be learned early which will assist the learner to master for himself, with the aid of a little Phonic instruction, other harder words.

It may be interesting to set out some of the facts about the vocabularies of first readers in use in this country. For the purpose of a criterion we may employ the list of the commonest 150 words made by Stone¹ from word-counts of a number of American primers.

(1) Not one of the five English series uses the following words in Stone's list among their own first 150: *call, from, gave, laugh, soon, stop, three, way*.

(2) No. 1 alone uses *apple, could, ride*.

No. 2 alone uses *bird, blue, sing*.

No. 3 alone uses *fast, girl, green, look, table, two, your*.

No. 4 alone uses *bow-wow, came, made, morning, saw*.

No. 5 alone uses *children, day, eat, house, sleep, white, who, soon*.

(3) Of the words which the other four series use:

No. 1 omits *cat*.

No. 2 omits *give, he, of, my, that*.

No. 3 omits *all, am, we*.

No. 4 includes all.

No. 5 omits *good, he, here, little, up, you*.

¹ C. R. Stone, *Better Primary Reading* (St Louis, Missouri, Webster Publishing Company, 1936).

(4) Of words used by three of the five series:

No. 1 omits *at, back, home, jump, out, put, they*.No. 2 omits *at, back, bed, black, by, from, had, his, like(s)*.No. 3 omits *by, father, had, home, out, pig, some, us*.No. 4 omits *away, bed, black, father, from, like(s), take, us*.No. 5 omits *away, jump, pig, yes*.

(5) If we compare the five English books with one another we find that:

No. 1 alone uses *bell, don't, fall, fan, found, hat, horse, hush, ill, isn't, lap, wake, over, ready, sat, sent, thin*.No. 2 alone uses *blow, cannot, clothes, dig(s), field, happy, kites, love(s), our, pail, pussy, roses, shall, shoe, sky, spade, warm, wind*.No. 3 alone uses *baker(s), book, bread, bricks, butter, clean, draw, drop(s), feet, four, hand, hear(s), knife, mark, oven, saucers, sisters, side, smells, spoon, than, train*.No. 4 alone uses *alone, along, barber(s), began, broke, crown, done, great, leave, market, once, pail, poor, seen, wait, whose*.No. 5 alone uses *been, brings, copy, dirty, drums, guns, himself, near, line, only, rest, sands, small, summer, swim, their, until, when, wool, year*.

The practical teacher may deplore this lack of agreement among the experts, but she will usually go ahead and make the best of the material at her disposal, feeling that sooner or later she will be able to see her pupils safely through the initial stages of instruction. Given a good start with a hundred or so of thoroughly familiar words and phrases, she will find no difficulty in making them the basis of good Phonic teaching, and a little daily Phonic drill in addition will ensure steady progress on the part of all but the dullest of her pupils. On the other hand, there is certainly a need of fresh thought in the composition of first primers, and we cannot too strongly emphasize the principle that words used with relative infrequency by little children should not be introduced into their reading-books if it means that at the same time the commonest words within their vocabularies have had to be omitted.

10. MEASURING DEVELOPMENT IN READING ABILITY

We can say that progress in reading will be shown, on the one hand, in the ability to get meaning from increasingly difficult passages of prose and poetry, and on the other, in a steady enrichment of experience through what is read. Progress in the former sense must, of course, depend to a large extent on the intelligence of the reader; one child will grasp the sense of a

passage in a few seconds which another may pore over for ten minutes without profit. The progress which is reflected in an enrichment of experience is in the final resort immeasurable.

How to measure the progress which is being made in the mastery of simple meaning is another matter. In a general way, the ability to get meaning out of a printed passage may be discovered, according to the stage reached, (a) by asking the reader to point in an accompanying picture to objects and actions named by the words read; or where no pictures are provided, (b) by asking him to answer questions on the subject-matter, or, again, to reproduce the sense of it; or again (c) by asking him to follow instructions conveyed through print. If we wish for anything more precise we must resort to standardized reading-scales. But these have their short-comings. They will not enable us to find out how much difference a book has made to the person who has read it. They are most concerned with the letter rather than with the spirit.

The reading-scales which are best known in this country are those of Burt¹ and of Ballard.² In America the various reading-scales in use are much more ambitious in conception than ours and cover a much wider range.³ It is no doubt easy ten years afterwards, with the experience of so many others to draw upon, to see imperfections in the pioneer work of Burt and Ballard, and the reading-scale which will be the subject of the next few pages must be justified by its own intrinsic merits. Our justification in introducing a new scale for use in this country is that it is an attempt to combine the advantages of the Burt and the Ballard Scales in a single form. Teachers often say that Ballard's *One-minute Scale*, useful as it obviously is, measures merely the ability of children to 'bark (correctly as well as intelligently) at print'; but it has one great merit: it permits of a very fine grading of this ability at the lowest levels. Professor Burt's Scales enable us to measure quickly enough both the ability to recognize separate words and the power of getting at their sense when used together; but we have to employ two different scales for these purposes. The reading-scale shown in Appendix II (3) should enable the teacher to measure both recognition and comprehension by using a single series of sentences and to

¹ C. Burt, *Mental and Scholastic Tests* (London, P. S. King and Co., 1921). For an up-to-date revision of Burt's test (by Dr P. E. Vernon) see Vol. XII of the publications of the Scottish Council of Research in Education (University of London Press, 1940).

² P. B. Ballard, *Mental Tests and The New Examiner* (London, University of London Press, 1920 and 1923).

³ One may perhaps mention among others the *Pressey Diagnostic Reading Tests*, the *Gates Primary Reading Tests*, the *Haggerty Reading Examination*, the *Detroit Word-recognition Test*, and the *Gray Standardized Oral Reading Check Tests*.

get as fine a grading of each of these abilities as is at present possible.

II. A NEW READING-SCALE: (a) WORD-RECOGNITION

The scale consists, as will be seen, of thirty-three sentences arranged in order of difficulty, both as regards their mechanical elements and as regards their comprehensibility. The sentences themselves were constructed and tried out one by one with a number of children of varying ages from five and a half to eleven, modified where necessary, placed tentatively in the scale at what was thought to be a suitable point, and then moved backward or forward along the scale as circumstances dictated. After a preliminary standardization, which led to further verbal modifications, the scale was used in thirty schools of different types chosen in order to get a fully representative sample for standardization purposes. The graph shown at p. 102 shows the average scores for mechanical reading only, obtained by using the scale with some two hundred children in each of the ten half-yearly age groups from five and a half to ten and a half. From the scores actually obtained the line of norms, also shown on the graph, was drawn.

An examination of the line of norms shows that the progress of the child in mastering the difficulties of mechanical reading, as measured by this scale, is at a rate represented by an increase of one sentence every three months (or four per year). But in deciding how far the child can read mechanically along the scale, we allow him to make a total of four unmistakable errors before pulling him up, local pronunciations, like *kewpon* for *coupon*, not being counted against him. Thus, if he makes his fourth error in mechanical reading in the twelfth sentence we say that he has made $12 \div 4$, or three years of progress. Moreover, as we consider it is necessary for him to have reached the age of five and a half before he can be expected to read at all, we credit him with five and a half years and add it to the number of years of progress he has made. We can then say that his reading age is five and a half plus three or eight and a half years.

It will be seen that the graph of the average scores actually obtained departs to a significant extent at two points only from the line of norms which has been adopted. These points mark, respectively, the age (a) when children are ready to leave the infants' schools and (b) when they are about to take the examinations which qualify for entrance to secondary schools. It is not unreasonable to suppose that at these two stages in their career a little more attention than usual is being given in school to the

three R's. The dip below the line at the age of eight plus is to be explained, possibly, by the change of school (infants' to

Sentences

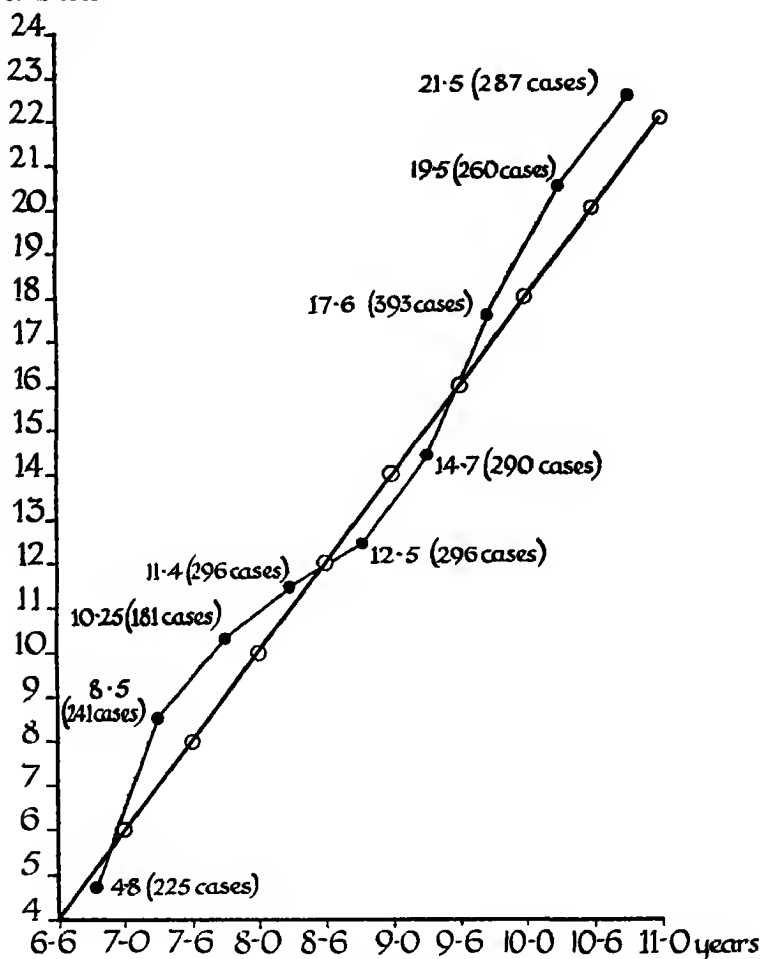


FIG. 6. MECHANICAL READING SCORES AND NORMS

Age (years)	6½	7	7½	8	8½	9	9½	10	10½	11
NORMS	4	6	8	10	12	14	16	18	20	22

junior), which is not infrequently accompanied by a slowing-up in adaptation to new conditions, and is reflected in a temporary falling-off in fundamental attainments.

The scale is not intended for use with normal children above the age of eleven, since it does not extend far enough to allow after this age of a sufficiently fine grading of ability in the upper reaches.

12. A NEW READING-SCALE: (b) COMPREHENSION

So far we have been dealing with the scale as an instrument for measuring progress in mechanical reading (or word-recognition). Children should be able to understand as much of what they read themselves as they can understand of what is spoken by others. In Appendix II, III (2), will be found a set of questions which can be used for determining how far children tested can get at the sense of the sentences read. Comprehension, it may be said in passing, is a much better (though still imperfect) indication of general intelligence in young children than the power to recognize difficult words. Now, in using the scale both for word-recognition and comprehension we found that as a rule children could read farther along the scale mechanically than to the point where their comprehension ceased, but that a good many exceptions to this rule occurred. These usually concerned children who had been badly taught or were suffering still from the effects of long absence from school due to illness or other causes. Such children were often able to get at the sense of what they could not completely read correctly, if a hint of its meaning was given them. Thus, in using the questions framed to measure comprehension we gave these children a chance of showing to better advantage than they could in mere word-recognition. Let us look, for example, at the scores of some children in a class of average age of nine and a half years in a well-taught school. The figures in the top line show the scores of the different children in mechanical reading; those below show their scores for comprehension.

Mechanical reading . . .	32	28	32	14*	29	21	27	27	24	27	26	21	22
Comprehension . . .	25	24	28	21	22	20	21	24	22	24	25	18	17
Mechanical reading . . .	15*	21	21	16	14*	18	24	16	15	15*	11*	19	12*
Comprehension . . .	17	20	17	8	17	16	17	12	14	16	17	18	14
Mechanical reading . . .	19	15	14*	18	31	19	26	18	Average: 20.2				
Comprehension . . .	12	13	24	15	27	17	20	16	do. : 18.2				

The scores on the first line are greater on the average than those below by two. Nothing is seriously wrong when children can read sentences mechanically the meaning of which they cannot altogether comprehend. But it is serious if after about

the age of seven they can understand the meaning of easy sentences which they fail to read correctly through an inability to recognize all the words. Thus, among the scores above, those starred show a difference which is in the direction of weakness. But some are not striking, and we may perhaps neglect all except three. These call for explanation. The fourth pair of scores (14 and 21) were of a highly-strung child who fell to pieces in mechanical reading, and who could really do much better than her score in this respect suggests; the twenty-fourth pair (11 and 17) were the scores of a newly-admitted child from another school about whom little was yet known; the twenty-ninth (14 and 24) were those of a child who had been absent more than once for long periods on account of illness.

13. INFERENCE FROM DATA DERIVED FROM THE USE OF THE SCALE

In looking then at the results obtained by using the scale one may find a great diversity of attainment between some children and others, which is not altogether accounted for by differences in intelligence, home circumstances, or long illness. The possibility suggests itself that this diversity is due to teaching technique.

No one has so far proved able to stage a satisfactory experiment which would show incontestably the comparative merits and drawbacks of the various techniques of teaching reading in common use. It is well-nigh impossible to secure conditions for an experiment in which the teaching energy and power, the intelligence of the children, the out-of-school environment, and the time given to instruction have the same weight for the two or more techniques to be compared. Moreover, apart from what was said earlier about the desirability of postponing Phonic instruction for most children in the earliest stages of learning to read, it is doubtful whether any one technique must always prove superior to another, whatever the age of the child or whatever the out-of-school circumstances. The only safe conclusion in these matters is that as long as individual children vary there will be room for a variety of techniques, and that a single technique may have results that vary in effectiveness with the circumstances of its use.

14. WHAT CHILDREN LIKE TO READ

From the results of research work at different times it would appear that a certain progression may be traced in the sort of subject which engages children's interests at different ages, though they will always, of course, differ considerably from one

another at any single age. Thus, to take fiction: at six and seven years of age stories based on everyday experiences, fairy-tales, and animal stories make a strong appeal; at eight to ten, boys and girls begin to show diverging interests, the former beginning to prefer realistic adventure stories to other kinds of story, and the latter, stories of domestic and school life; after the age of ten boys take readily to tales in which inventions and mechanical and electrical devices play a part, while girls develop an interest in stories that are centred in home and social life and are charged with romantic sentiment.

A few years ago the present writer asked some two thousand children of senior school age to answer the following question: *What kind of a book would you like to have for your next birthday present?* The replies showed a preference of 80.6 per cent. for easy fiction—e.g., fairy-tales, school stories, adventure stories, and ‘thrillers,’ together with a few standard works of fiction made popular by adaptations for the cinema. The remaining 19.4 per cent. consisted of books dealing with history, biography, travel, arts and crafts, science, nature study, poetry and drama. As for the sexes taken separately, boys had apparently a greater use for non-fiction than girls, the relative percentages being: boys, fiction 72 per cent., non-fiction, 28 per cent; girls, fiction, 89.8 per cent., non-fiction, 10.2 per cent.¹

This general preference for easy fiction is further evidenced by the multitude of pre-war children’s weeklies and other periodicals published for them. A cursory inspection of a newsagent’s bookstall in any town will show as a rule some twenty to thirty ‘comics’ (a form of periodical which appeals strongly to children who have still to master completely the mechanics of reading, but who are able to follow a ‘strip’ story) and the same number of magazines of the ‘thriller’ type, designed to appeal to older children and adolescents. A small number only of these magazines cater for the boy or girl seeking interesting information as well as an interesting story. The newer types of boys’ weeklies are, however, beginning to cater specifically for boys who are interested in the romance and the mysteries of science.

Put in another way, development is seen to begin with an interest in stories that present a simple sequence of easily pictured events all occurring to the same person (or animal), to pass on to

¹ More recently a similar inquiry has been carried out in greater detail in some schools in the north-west of England. The investigator has found much the same kind of result. See A. J. Jenkinson, *What Do Boys and Girls Read?* (London, Methuen, 1940). For a discussion of some of the points arising from research into children’s preferences in reading, see F. K. Shuttleworth’s *A Critical Study of Two Lists of Best Books for Children*, in “Genetic Psychology Monographs” (XI, 4) (Worcester, Mass., Clark Univ., 1932).

an interest in the adventures of a limited number of persons, and to end for the child of school age with an interest in stories involving the rivalry of several persons who display the commoner virtues and vices, with the triumph at last of courage, loyalty, and unselfishness over the forces of evil.

15. THE PROBLEM OF SECURING ADEQUATE READING PRACTICE

A great advantage which comes to children from reading 'comics' and 'thrillers' is that thereby their total amount of routine reading practice is enormously increased. A course of classroom reading is usually too limited to ensure a knowledge of the twenty to thirty thousand words without which a person will make little of what he reads in newspapers and books. If a boy or girl gets through, say, half a dozen books a year in the classroom, each, say, of thirty thousand words, this will give a total of a hundred and eighty thousand words for a full year, or just over a million for the five years from ten to fifteen. Of these words the vast majority will be words which fall within the range of the commonest two thousand in the language, so that there will not be a great deal of opportunity for him to become acquainted with the rest of the twenty to thirty thousand needed for a ready understanding of the reading matter with which every one should be able to make himself familiar. To ensure this it is Thorndike's opinion (an opinion not to be lightly set aside) that a child needs to read some five million words during the ten to fifteen period.¹ Here the 'comic' and the 'thriller' play their part for the child who has few opportunities for better reading. Of course, the school library ought also to play its part, so that where the newsagent and the school library are being well patronized by children there need be no fear of Thorndike's five million words not being easily passed. It is essential, however, that the fullest measure of free discussion should take place about what is read if the maximum degree of benefit is to ensue.

It may be of interest to note in this connexion, that whereas in a fairly good working-class district the present writer found 61.7 per cent. of the older children borrowing books regularly

¹ Jenkinson (*op. cit.*) gives figures from which we may make a conservative estimate of the amount of reading practice obtained by the average child in secondary schools. Thus, at twelve he appears to read each month at least four books out of school (say of 30,000 words each), two books in school (say, another 30,000 each), and four schoolboy magazines (say, another 15,000 each). This makes a total of some 270,000 words a month, or over three million words a year. Far too small a proportion of what is read in this way, however, is subjected to that close discussion which alone can make reading a real mental discipline.

from the public library, 17 per cent. only of the older children borrowed books from the public library in a poorer district of the same borough; 81.3 per cent. of children in the poorer district, however, regularly bought thrillers (usually second-hand copies). In the absence of facilities for out-of-school reading provided by the comic and the thriller, it is therefore fair to say that few children in the poorer quarters of our large towns would have opportunities, under present conditions, for reading enough to gain a mastery of the English language for everyday purposes, and it is quite clear that unless these sources of reading material are freely and fully tapped and made the basis of sympathetic discussion, there will be little likelihood of such children developing the power of discriminating between sense and nonsense when met with in print.

16. TWO KINDS OF READING

It is to be expected that simple narrative will appeal to immature and to untrained minds more strongly than other sorts of reading matter. In following a story not everything that is read need be thoroughly understood so long as the main thread is held. It requires, on the other hand, an effort, of which only the most mature and most intelligent readers are capable, to extract the precise meaning intended by an author who has something important to say.

When, therefore, the mechanics of reading have been mastered the art of reading may still be regarded in two different ways: either as the process of interpreting a writer's precise meaning as it is expressed in his written words, or as the process by which we attach images and ideas of our own, which may not be the writer's own images and ideas, though they may carry his general meaning almost as well, to the words and phrases seen in written or printed form before us. Clearly, what we read is meaningless unless we have already experienced something which can provide it with an intelligible setting, but at the lower levels of reading ability we may be more concerned to indulge our fantasies than to get to close grips with the thoughts of others. Thus, the heroes and heroines of the stories which children like to read are those with whom they can identify themselves, and with the thrill of excitement and pleasure live in imagination a life which is otherwise denied them. At this level they need not understand or be able to appreciate any of the numerous shades of difference between the heroic and the cowardly, the happy and the unhappy, or the good and the bad. They are satisfied with a world where things are either black or white, and they usually bypass

the type of author who would attempt to convince them that there are many other shades between.

In training children to read in the manner of the mature student the teacher consequently needs to be ever alert to see that they are able to say what any book, chapter, or paragraph is about which they have just read, and what it is about both in a general way and in some detail; and, having succeeded in getting his pupils to do these things satisfactorily, he must then go on to get an expression of his pupils' personal reactions to what has been understood, since to invite comments before understanding is complete is the surest way of encouraging superficiality. Comments intended to remedy lack of understanding are of course in another class.

In short, if we were asked to set out as simply as possible the rules which a teacher of reading should constantly bear in mind they would be: (1) see that the pupil can summarize in general, and, if necessary, in some detail what it is that he has read; (2) see that he can give a judgment about the truth or reasonableness of what he has read; and (3) see that he can make an intelligent comment about it, or draw a sound conclusion from it. All this presupposes a general discussion, of course, of what has been read.

17. A READING TEST FOR OLDER CHILDREN

We have already drawn attention to the complex nature of reading ability and stressed the danger of regarding it as nothing more than a mechanical skill that can be acquired once and for all at an early age. In addition to being able to follow a story children need to learn to understand verbal descriptions of practical processes and everyday activities and to draw inferences correctly from simple but carefully reasoned prose. It is true that backward or immature children may fail at almost any kind of reading, and that mature and older and more intelligent children may tackle almost any type of non-technical reading matter with much the same degree of success, but the vast majority of learners will show varying powers in interpretation of varying types of straightforward text. In the appendices, will be found a series of reading tests devised and used by the present writer which frequently show this to be so. Test A (p. 311) calls for a precise understanding of the vocabulary required in making a drawing in accordance with verbal instructions. Test B (p. 311) entails the ability to follow a logical train of thought to a simple conclusion. Test C (p. 312) involves the power to interpret a fable. These three tests were set to a large number of thirteen-

year-old children in senior schools, and in several of them the correlation between the tests taken in pairs was found to be so low as to suggest the non-existence of similarity between the tasks. This should show plainly enough that the growing child needs help and practice in dealing with the principal types of reading matter with which he is likely to be confronted. He will experience difficulties of vocabulary, of comprehension, and of interpretation at different levels and in different fields, and there is no way of avoiding the necessity for this help and practice.

It is probable that some 90 per cent. of children reach the school-leaving age able to pass a simple test in mechanical reading and able to read simple story-books with enjoyment. They are mostly able to pronounce intelligibly enough the vast majority of the words they see even though they may not be able to say what they mean. But they do not want to spend much time on the books which we might think eminently suited to their age and capacity. This suggests that a larger number of children than we may wish to admit reach the school-leaving age without having acquired the power to master any kind of reading matter other than what is couched in simple non-technical language.

A further reading test arranged by the writer and set a few years ago to some two hundred children in each of the age-groups from eleven and a half to fourteen and a half, may be mentioned as relevant in this connexion. The material for the test consisted of a number of isolated sentences set out opposite one another in a double column (see Test D, p. 314). In the first column were twenty sentences, some in literary, others in technical English. In the second column, corresponding to them in meaning but not in the same order, were twenty sentences in colloquial English. For example, the second sentence in the first column, "Compulsory morality is no morality at all," could be matched with the fourteenth sentence in the second column, "You are not really good if you only do what is right when you have to." What the child tested had to do was to give each sentence in Column Two the same number as the sentence corresponding to it in Column One had been given.

The graph at p. 110 shows the median scores of the children tested in each age-group.

The lowest curve may be taken to represent what the median scores would be of from 85 to 90 per cent. of the senior school population between the ages of eleven and a half and fourteen plus. These scores would seem to suggest that the average child reaches the present school-leaving age able to

understand some 60 per cent. of sentences like those in the first column, though not without assistance. But at this age the lower quartile score was 7 (= 35 per cent.), which means that one-quarter of the school leavers can probably make very little meaning out of some 65 per cent. of sentences like those in the first column; and every year half a million at least leave at this

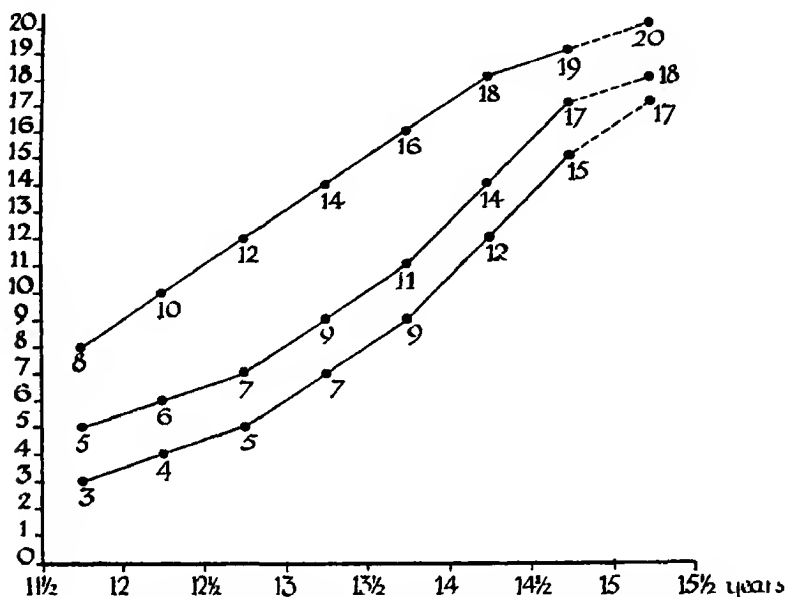


FIG 7. LINES OF NORMS FOR IHL READING TESTS FOR SENIORS (B)
 Top line 'selected' seniors. Lowest line other seniors. Middle line seniors of all types taken together

stage of development. On the other hand, it is gratifying to find that an additional period at school at this extremely critical age appears to have a marked effect, since the median is 15 at fourteen years nine months, while at fifteen years three months it would no doubt be in the neighbourhood of 17 or 18 (i.e., 85 per cent. to 95 per cent. of the total possible score). These figures indicate clearly what so many teachers feel to be true, that the education of the senior school child ceases just as it is becoming really effective and producing its intended result. Another year at school would make all the difference between the literacy which we aim at and the semi-illiteracy (and gullibility that goes with it) which must often seem more dangerous than the complete illiteracy which it has displaced.

18. EXPERIENCE AS A FACTOR IN READING ABILITY

A point of considerable interest which arises from a scrutiny of the scores made by boys and girls in different schools is that the environmental advantages which some children enjoy throughout their schooldays count for less in this kind of test as they grow older. Favourable home conditions in the early years of childhood give background and meaning to what is read to such an extent that they leave the child from an illiterate home severely handicapped in his progress. Boys and girls from superior homes are likely to know the meaning, for example, of the word *capital*, which is used in the thirteenth sentence in the test, long before children from homes without any cultural background, and they must find themselves years ahead in general experience of life of those whose knowledge of this word is confined to its elementary geographical meaning. But the gradual approximation in the scores by all types of child towards the age of fourteen plus proves that the handicap of a poor linguistic start need not be a permanent one.

There is another way of putting the same point. The correlation of reading ability (as judged by the test) with intelligence (g) averaged 0.3 at 11.3 years of age, but it rose to 0.8 at the age of 13.9. This would appear to mean that our reading test is less a test of intelligence at eleven plus than at thirteen plus, at which age the cumulative effects of schooling are beginning to make themselves felt. It will be remembered that the same sort of result was said to show itself in connexion with the present writer's *Vocabulary Tests* described earlier. Clearly, the age of eleven is much too early for a final selection for higher education of the grammar school type where children from poor homes have to compete with children from more fortunate homes. By the time the school-leaving age is reached, however, the majority of boys and girls will have developed sufficiently in intelligence and gained enough experience of life to enable them to make sense of ordinary reading matter of the kind represented by the sentences in Column One of the test. At this age, therefore, a reading test will be a much fairer selection test if it should be required in a competitive examination.

Another point is worth mentioning. The average school textbook is usually written in the language of the generalized statement and greatly resembles the Column One style of writing. This is not the kind of language used by children in their everyday conversation, and its meaning cannot be grasped before they have gained a thorough familiarity with the experiences such statements are framed to summarize. It is obvious, therefore,

that books for juniors and slow seniors should be written in a less abstract style.

19. MATURITY AS A FACTOR IN READING ABILITY

The extent to which a reading performance depends on the maturity of the reader may be illustrated, perhaps only indirectly, in another way. Occasionally, a sense of humour is necessary to the full appreciation of what is read. With this in mind the following anecdote was read to about a thousand children, and the question set out below was then answered by them.

Mr A meets Mr B

Two men once met in a narrow passage where there was not room enough for both of them to pass each other easily.

"Will you please make way?" said Mr A, who had got there first

"Certainly not," replied Mr B. "I'm not going to make way for a fool."

"Oh, very well," said Mr A, "then I will." And he at once stepped aside

QUESTION

Why did Mr A step aside?

- (a) Because he knew that he was a fool?
- (b) Because this was a good way of showing that Mr B was a fool?
- (c) Because he saw that Mr B was angry?
- or (d) Because he did not know any better?

UNDERLINE THE RIGHT ANSWER

The results are shown in the table below:

JUNIORS		SENIORS ¹	
Age	Right Answers (percentages)	Age	Right Answers (percentages)
8-8½	12.0	11-11½	21.5
8½-9	16.1	11½-12	32.1
9-9½	20.3	12-12½	43.7
9½-10	28.7	12½-13	60.1
10-10½	34.8	13-13½	72.4
10½-11	47.2	13½-14	80.1
11-11½	47.8	14-14½	86.0

A study of these results suggests again that at fourteen the average child has no difficulty in seeing the point of a humorous story of this type even though, as is often the case, the brightest juniors at eleven are of the same mental age.

All that we have so far said indicates clearly that reading ability is a combination of both general and specific factors.

¹ Not including the brighter juniors who had been 'creamed' off for higher education.

20. READING AND THE DEVELOPMENT OF INTERESTS

There are two types of serious reader—the first a rare type who is not dependent upon others for the vitalization and strength of his interests, the other, a much commoner type, whose enthusiasm for any kind of serious reading cannot be maintained for long unless he can come into frequent contact with others able to keep him stimulated.

The average boy or girl does not, as a rule, take up any intellectual activity with zest unless he sees clearly that it has already proved capable of giving his friends and grown-up acquaintances something of a thrill. Interest and enthusiasm are caught by a sort of psychological infection rather than acquired through efficient instruction: teachers advertise the value of what they teach by the liveliness and intensity of their preoccupations. Most children brought up among people who lack any passion for intelligent activity and discussion have little desire for serious study; living, for example, with parents who keep a few standard books in a glass cupboard which is rarely opened, they cannot believe that their elders have any real use for such things. But the child fortunate enough to live among people who find it impossible to lead a full life without pursuing ardently some rational or artistic interest, is not unlikely himself to want to read widely and deeply. This is the type of reader whom we cannot produce by instruction alone; nearly always, when asked in later life about the origin of his interest in a subject or activity which has made him known to a wider circle, he will tell you that early in his life he was lucky enough to come into contact with some one who was not only able to instruct but also to inspire.

It is not sufficient, therefore, to arrange a course of intensive reading for the average boy or girl, followed by searching tests after each lesson for the discovery of the degree of their success in concentration. The better way is to get them interested in a subject which they can study in the concrete—e.g., frogs, the household water-supply, the parish church, the local railways, etc., and, after encouraging them to ask questions, to set them to read in books in which they will find their answers.

21. THE GATEWAY OF ROMANCE

We cannot go far, then, in teaching children to read intently unless we can whet the appetite for books which may at first seem less interesting than simple story-books. In the area in which the question was asked, "*What book would you like to have for your next birthday present?*" the biggest percentage of answers

showing a preference for something other than a story-book was from schools where one or more first-rate specialist teachers had succeeded in making their subject a live one. Usually they had opened up an alluring prospect of their subject through the gateway of romance.

A great deal may be done at the junior school stage to give children a glimpse of the romance of the subjects they will have to study later. Thus, in preparation for advanced work in science they can be helped to read with pleasure such books as Mrs Buckley's *Eyes and No Eyes* and *Fairyland of Science*, Mrs Gatty's *Parables from Nature*, and Fabre's *Book of Insects*. These will give children an attractive view of the biological field. It is this sort of preparatory reading which boys have missed who find at thirteen that they can get no pleasure out of books like Fournier's *Wonders of Physical Science* or the simpler of the published versions of the Christmas lectures for children at the Royal Institute.

Again the boy who has not read with enjoyment at ten or eleven Shackleton's *South: the Story of the 1914-17 Expedition*, Scott's *Voyages of the "Discovery"*, Whympers's *Scrambles amongst the Alps*, Patterson's *Man-eaters of Tsavo*, or accounts of the travels and explorations of men like Nansen, Livingstone, and Mungo Park, has usually missed that preparatory reading in geography which begins normally at seven with such stories as Miss Gullick's *Overseas Children* or Miss Chance's *Children in Other Lands* and ends at ten or eleven with the thorough enjoyment of such books as *Gulliver's Travels*, *Robinson Crusoe*, *Coral Island*, and *Martin Rattler*.

As in science and geography, so in history no genuine interest in the work in hand and no disposition to study the subject can be counted on in the senior school unless the appetite of the children has been whetted by the reading of the stories of the Greek heroes and of books like *Theras, the Story of an Athenian Boy*; so that it will find satisfaction later in Henty's stories, and in books like *The Children of the New Forest* and *The White Company*.

It is by the encouragement of wide reading in easy books that present the romantic aspects of their subjects, by vivid oral teaching, by the skilful use of good pictures, and by the provision of opportunities for practical activity in connexion with what is being learned, that the appetite of the child can best be stimulated and his curiosity turned to good account.

22. THE PRACTICE OF NARRATION

To go back to what was said earlier, we can say that an early step in teaching children to study is to provide a relatively easy

story-book and at the same time to demand from them an outline of what they have read, or, if this is too much, of some particular feature of it. If we get into the habit of asking the child, "What is it you have been reading about?" of following this up with "Tell me more about *this* or *that*," and insisting that a clear account and not a rigmarole follows, we shall be cultivating whatever ability he has to speak directly about the sense and substance of his reading. This is the second stage that the child must pass through in learning to apply his mind. "No impression without expression," as William James used to recommend. It is true that reproduction may not be as valuable an exercise as thinking for oneself, but it is by no means certain that the act of retelling a story or reproducing an argument, if supervised by a teacher with a sense of accuracy in the use of language and a respect for genuine self-expression when the occasion calls for it, is so mechanical as many persons would have us think. But where nothing but literal reproduction is insisted on the method has, of course, its defects.

It was here that the early education of John Stuart Mill seems to have gone wrong. As father and son used to walk daily through the fields of Hornsey together the boy would as a matter of course reproduce as faithfully as he could the substance of what he had read the day before. So far so good, but instead of allowing the boy to exercise his own wits on the material assimilated—say what he thought about it, for example—the father prescribed exactly what his son's views were to be, and this was probably why in after-years friends and enemies alike were wont to speak of his lack of freshness and spontaneity.

The method recommended is regarded as a peculiar characteristic of the work of the Parents' National Educational Union, as outlined in the books of Charlotte Mason. As a matter of fact, it is in the best English tradition, and examples of it can be traced back for a very long time. Mrs Piozzi gives it as Dr Johnson's opinion "that little people should be encouraged to tell whatever they hear particularly striking to some brother, sister, or servant, immediately before the impression is erased by the intervention of newer occurrences." He perfectly remembered the first time he ever heard of heaven and hell (he said), because when his mother had made out such a description of both places as she thought likely to seize the attention of her infant auditor, who was then in bed with her, she got up, and, dressing him before the usual time, sent him directly to call a favourite workman in the house, to whom she knew he would communicate the conversation while it was yet impressed upon his mind. The event was what she wished, and it was to that

method chiefly that he owed his uncommon felicity of remembering distant occurrences and long-past conversations.¹

23. NOTE-MAKING

Given the kind of book for study suited to a child's age and interests, there is no reason why, by encouraging the practice of narration or recapitulation, we should not accustom him to the intent use of his mind upon it.

Another method of effecting this which is not always understood sufficiently by those who make use of it is "note-making." Successful note-making calls for a power of judgment that the child does not as a rule possess. As Professor Sir John Adams once wrote:

The teacher is in a strait between two dangers. If he allows his pupils to exercise their own discretion and set down matters as they appear to them there is a strong possibility that the note-books will be full of errors in mere facts, and will certainly not present matters in their proper order or in their true perspective. On the other hand if the teacher prescribes the order and dictates the form there is the danger that the pupils will lose the fundamental advantage promised by the system, which is the encouragement of initiative and self-activity.²

There is one simple form of note-making, fortunately, which is well within the range of the average child's capacity; indeed, it may easily be shewn to arise naturally from the practice of narration already recommended. Children, that is to say, may readily be accustomed to what John Stuart Mill called making "marginal contents" of books, or, as we should now call them, "paragraph headings." We may think of this practice as forming the third step to take in solving our study problem. The great advantage of the plan is that it enables us to exercise the child in summarizing his reading with his book before him, and in explaining and amplifying his headings in the absence of the book. When the child can do this easily, and not before, it is time for note-making proper.

24. THE ART OF QUESTIONING

By skilfully devised questions a teacher can do a great deal to direct a child's attention to important ideas that may otherwise escape him. On the other hand, the child must learn to depend on himself and not wait for others to tell him what is and what is not important. Moreover, much school questioning is definitely harmful; that is, if we assume that the right kind of question is concerned with the intelligent understanding of what has been

¹ Hester Lynch Piozzi, *Anecdotes of the Late Dr Samuel Johnson*.

² *Exposition and Illustration in Teaching* (London, Macmillan, 1909).

studied. Unfortunately it is not untrue to say that a great many of the questions asked in schools involve little more than the reproduction of unimportant items of information beyond which nothing more may have been gleaned from a rich field. The reading-books that are now becoming popular abound in this sort of question. The reason, we may suppose, is that the teacher must be provided with a sure and easy method of detecting those children who do not do as they are told when set to read by themselves. Here, for example, are some questions on *Rob Roy* which show what is meant:

- (a) Where was Rashleigh Osbaldistone educated?
- (b) What was the name of Diana Vernon's horse?
- (c) Who painted the portrait of Diana's grandfather?
- (d) Which Scottish crag is visible from Osbaldistone castle?
- (e) Where was St Mungo's steeple?

These are questions that may, or may not, discover the children who have waded through the story conscientiously. Yet who is the wiser for being able to answer them? When such questions appear in any number in a question paper we may be pretty sure that it is not the educationalist who has been at work but the police.

On the other hand, when the young reader is invited to outline a sequence of events in a story, to select the best paragraph heading from among a number suggested as suitable, or to frame a suitable heading for himself, to state what an author is trying to prove and make a short summary of the arguments which he employs to this end, the extent to which he successfully meets these demands upon his reading powers will be a reliable index of the degree to which he is being trained to read to some purpose and independently of his teachers.

25. THE SELF-POSED QUESTION

The most important kind of question educationally is the self-posed question. Our own peculiar difficulties and needs cannot always be discovered through questions set by some one else. Indeed, unless we read wanting to gain something definite from our reading we shall not develop any genuine reading skill. It is in solving our own problems that we learn to think for ourselves. Consequently, to get children to pose questions for themselves about the things they feel they ought to know better is the fourth and most important step in the task of teaching them how to study. To find the answers to such questions will involve the use, as a rule, of more than one book, but this will give a training compared with which the searching for answers

that can quickly be found and then set down in the words of the only book in use is no training at all. Indeed, most teachers would agree that the intelligent use of reference books is a *sine qua non* of genuine reading ability.

It is worth remembering in this connexion that knowing how and where to get information is a rather different thing from actually getting it. A good deal of hard spade-work has to be done before a child acquires the useful habit of leaving a comfortable seat to go in search of information on a puzzling point. Early associations serve to fix the habit of asking those around us what this or that means when we are puzzled. It is not natural for a young child to go straight to a reference book when he is in a difficulty. If, however, his first impulse is, in meeting a strange word or a fresh idea, to consult the right book, then we may be sure that some exceptionally successful teaching has been done. But until this habit is fixed it is useful for teachers and children to consult reference books together whenever the occasion justifies it. It is only after co-operation with a teacher that the child learns to make his own effective use of an index, only through practice that he learns to interpret the various abbreviations found in such books as dictionaries, and only as a result of this introductory kind of experience that he discovers what are the likely sources of information in any given emergency.

26. CONCLUDING REMARKS

The upshot of all that has been said in this chapter is that from the beginning reading should be regarded mainly as the art of getting ideas from script or print, ideas that can please, instruct, elevate, or inspire. In teaching the technique of reading, the desire to read for purposes personal to the learner should be kept active, and he should not be exercised, therefore, upon material too much in advance of his grasp or of too little interest to him for other reasons. Care, too, should be taken to avoid making reading a mere examination subject; but children should be encouraged to narrate or summarize, and then comment upon what they have read, and as they grow older a precision in exposition and a common sense in comment which is commensurate with their age and intelligence should be demanded from them. Only in this way can we make sure that we are putting a tool into their hands which will enable them to secure for themselves some of the great advantages of living in a civilized community and not a weapon that can be turned against them by the unscrupulous advertiser and the commercially minded newspaper controller.

CHAPTER V

LEARNING TO WRITE ENGLISH

1. WHAT IS INVOLVED IN THE ABILITY TO WRITE ENGLISH?

The art of writing consists in having something to say worth saying and knowing how to say it.¹ This distinction between substance and style is important. Content should determine form; language which is merely decorative is out of place in first-rate prose. Nevertheless, the idea that style is a trivial thing apart from sound substance is by no means universal. Thus, the authors of a recent report to the Glasgow Education Authority have declared that "it is not the duty of the examiner in English to assess the worth of the subject-matter of composition. His concern is not with the thing said but with the saying of it."² In attempting to construct a hierarchy among the various linguistic skills employed by children in their writings we must guard ourselves against adopting so foolish and dangerous a heresy. Our way of approach must not be a terminus.

It is perhaps unreasonable to expect children always to have something to say worth saying, but most persons would maintain that when they do have something to say they can be taught to say it clearly and well. Success in securing good written expression will depend, of course, upon success having already been achieved in securing good oral expression, though the subsequent development of each may proceed independently of the other. In writing, progress towards success will be seen in a gradually extended vocabulary, in a growing sensitivity to the kind of diction called for on any given occasion, and in the steady development of skill in sentence-structure and composition. In attempting to trace the progress of children in acquiring the technique of written expression we must not forget that the ability to deal successfully with subject-matter of increasing difficulty may also be susceptible to the same kind of analysis.

2. A DISTINCTION BETWEEN SPEECH AND WRITING

One of the most difficult problems in the early stages of teaching children to write is to get those who have become fluent talkers

¹ "A great author . . . is one who has something to say and knows how to say it."—J. H. Newman, *The Idea of a University* (London, 1858).

² *Report on the Testing of English Ability in Glasgow Pupils at the Qualifying Stage* (Corporation of Glasgow, Education Department, March 1941).

to stop and think what they are going to say before they put pen to paper. Ability in the arrangement of material presupposes a simpler kind of designing ability, seen, for example, in the construction of different types of sentences. Now, in ordinary conversation we do not as a rule stop to think what we are going to say before we say it. "Anyone who will listen carefully to ordinary conversation," says Jespersen,

will come across abundant evidence of the way in which sentences are built up gradually by the speaker, who will often in the course of the same sentence or period modify his original plan of presenting his ideas, hesitate, break off, or shunt on to a different track.¹

And the more sensitive a speaker is to the varying degrees of responsiveness and understanding in his audience, the more he will feel the need to pick his way along, now tentatively, now boldly, but always with some uncertainty where the field is strange and the track he is following relatively unfamiliar. He has the advantage, however, that he can say a thing in more than one way, and repeat himself as often as necessary. This is why the type of sentence which reveals a comprehensive and sure grasp of an idea both as a whole and in its more important bearings on other ideas is oftener found in written language than in conversation.

In their informal talks and discussions in class, children will have achieved a certain degree of oral facility before they begin to attempt much in the way of writing, and at this stage and in the lowest age-levels it will be enough to aim at securing good sense and continuity in the child's own style without attempting to teach adult modes of expression. Only when children know exactly what they wish to say and have command of the vocabulary and idiom necessary for saying it can we expect them to be able to put their thoughts into prearranged form. Thus, prearranged form is the characteristic of good prose rather than of the everyday speech which the child will at first employ in his writing. Molière's Monsieur Jourdain was, therefore, right, after all, in expressing surprise when told that he had been talking prose all his life; his speech had certainly not been that, for it had merely been the colloquial language of his day.

The colloquial type of sentence-construction is often, however, deliberately imitated by writers who wish to avoid the reproach of being stigmatized as highbrow. Here, for example, is a passage from a contemporary writer which will serve for illustration. "Milton's (characters) are in revolt," he says; "Wordsworth's

¹ O. Jespersen, *Language, Its Nature, Development, and Origin* (London, Allen and Unwin, 1922).

are in—what are they in? They are not in revolt; they are not in acceptance, at least they are not in willing and exalted acceptance. They express—or some of them do—a trust in God.” This is the way we talk when what we are going to say has not yet become clear to us, and it may well be argued that such language is out of place in an essay on a serious subject. “It is the writer’s duty,” says Mr Fowler in his *Dictionary of Modern English Usage*, “to settle up with his after-thoughts before he writes his sentence.” In their own way and at their own level of competence children must also be expected to think first and write afterwards, but we must always remember that too great an emphasis at too early an age on planned statement may rob their writing of all its liveliness and interest.

3. SOME ASPECTS OF THE CHILD’S DEVELOPMENT AS A WRITER

The quality of the writing which a young child learns to produce will inevitably reflect his relative immaturity as well as, in too many cases, a poverty of linguistic equipment. But though very few children possess so little language as never to be able to say or write anything, we must be content, on account of the technical difficulties they find in the work of recording what they know how to say—difficulties of penmanship, spelling, capitalization, and grammatical concord—to see them at first engaged in the task of mastering language as an instrument of communication without a great deal of sensitivity or subtlety in its use. Weaknesses in both the technique of recording and the technique of expression are apt to occupy a substantial amount of the teacher’s time, in the early stages, to the exclusion of other more important matters. Nevertheless, it may be worth his while to examine children’s writing from the point of view of technique in expression.

As the child develops his writing will be found to contain sentences ranging from the simplest to the most complex, from those expressed in terms of an unqualified subject followed by an unqualified verb plus (if needed) an unqualified object (direct or indirect) to the most highly involved sentences of the compound-complex kind, much depending, of course, on the topic written about. In his progress, the child will gradually come to realize, though he may never be able to put his knowledge into words, that simple sentences can be made to express his thoughts and intentions with increasing satisfaction by the addition of one or more of the following: (a) words used singly with increasing discrimination and precision; (b) prepositional phrases functioning

as nouns, as adjectives, or as adverbs; (c) infinitives, functioning also as nouns, adjectives, or adverbs; (d) participial constructions; and (e) noun, adjectival, and adverbial clauses. A course of wide reading will lead him to feel rather than be able to say which words taken singly are better suited to writing than to talking, which prepositional phrases can be written but not spoken without embarrassment, which infinitive and participial constructions sound better read than uttered aloud, and, we may add, which devices of word-order are in place in writing but not in conversation, and which other methods of sentence-construction may be used unostentatiously in a composition but not colloquially.

How far it is possible to trace in greater detail the average child's progress along the way indicated will be the subject of the rest of this chapter. But once again it must be made clear that good writing will not be achieved by forcing children along the path traced out. Freshness and fluency in writing what is worth reading must come first. The teacher's problem will always be to devise interesting situations that will issue as a matter of course, wholly or partly, in writing. Suitability of tone, diction, and syntactical construction can then be much more fruitfully discussed. In short, as soon as the elementary difficulties of recording have been overcome the teacher will be wise to attend always to substance first and to technique afterwards.

4. THE ANALYSIS OF CHILDREN'S COMPOSITIONS

The most informative research so far reported on the development of the sentence in the writings of children is that of LaBrant,¹ who analysed the writings of over a thousand pupils from eight years upward in American schools, with a view to classifying the various types of dependent clause used at different ages. She discovered: (1) that dependent clauses increased in frequency with greater maturity in the writers at the same time as they also increased in complexity and clarity of thought; (2) that the relation between sentence-complexity and chronological age was closer than between sentence-complexity and mental age (which seems to suggest that experience plays an important part in the mastery of language); and (3) that the dependent clauses least used were noun clauses and the adverbial clauses of condition, concession, place, purpose, and result, and comparison, all these constituting at each mental level less than 6 per cent. of the total clauses used.

¹ Lou LaBrant, *A Study of Certain Language Developments in Children* ("Genetic Psychology Monographs," No. 5, November 1933), Clark University, Worcester, Mass.

Conclusions of this kind about the written language of children must to some extent depend on the subjects written about. A story will always contain more time-clauses than will the recapitulation of an argument, and the report of a conversation more noun clauses, perhaps, than either. The present writer set some hundreds of children to write on the subjects *Father keeps House* and *A Day when Everything went Wrong*. An analysis of the essays confirmed some but not all of LaBrant's conclusions. Thus, there was certainly an increase with age in the percentage of dependent clauses employed, as the following table shows:

PERCENTAGE OF DEPENDENT CLAUSES USED TO THE TOTAL NUMBER OF CLAUSES AND SIMPLE SENTENCES AT DIFFERENT AGES

AGE	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15
PERCENTAGE	16.2	22.1	27.4	32.3	36.3	39.5	41.3	43.2

The American investigation showed that noun clauses were among the clauses least used in the essays examined; in the essays of the English children examined by the present writer they took second place after temporal clauses in order of greatest frequency. It was also found that clauses showing consequence or result occurred with greater frequency at the lower age-levels than in the American essays. But adverbial clauses of condition, place, concession, and, we may add, manner, were, as LaBrant discovered, used infrequently. For those interested in the attempt to construct a hierarchy of the linguistic skills we may mention that the order of frequency of the commonest clauses in the English essays for both boys and girls up to eleven years of age was as follows: 1, time; 2, noun; 3, result; 4, reason; 5, adjectival. After this age the order was: 1, time; 2, noun; 3, adjectival; 4, reason; 5, result.

It was not found that chronological age was more important than mental age in producing dependent clauses in either greater numbers or variety. Indeed, it was always easy to pick out the brighter children at the lower age-levels by their greater skill in their management of the different types of dependent clauses.

5. VARIETY IN THE USE OF DEPENDENT CLAUSES BY CHILDREN

Mere increase in the percentage of dependent clauses by children is not the best index of progress in writing. It does not follow that a particular effort which shows a high percentage of dependent clauses is a better piece of writing than one with a

low percentage, or even that it is the result of subtler thinking. In the first place it is possible to show a high percentage of dependent clauses by using a single standard sentence-pattern over and over again; for example, the nursery rhyme "Old Mother Hubbard" contains a number of sentences all of one pattern, but, in spite of its lack of variety, it would have to be classified among the relatively high-percentage groups on the basis we have taken for classification purposes. In the second place, children as they grow older cease to employ some types of complex sentence and use simple sentences containing prepositional phrases and infinitive expressions in place of the clauses which they would have used at an earlier age. Below, for example, are three sentences, each followed by a simple sentence equivalent:

- (1) Mary was in such a hurry that she fell over the chair.
In her hurry Mary fell over the chair.
- (2) The fellow, one might say, was a professional crook.
The fellow, *so to speak*, was a professional crook.
- (3) When he had finished his breakfast Tom set off for school.
Having finished his breakfast, Tom set off for school.

The use by older children of prepositional phrases and infinitive expressions as alternatives to dependent clauses explains why the increase in the percentage of clauses at the higher age-levels is not so marked as at earlier ages. This tendency to compression, which is a mark of increasing maturity in children's work, has not so far been studied statistically.

What is more significant, then, of the child's technical progress as a writer than mere increase in the percentage of dependent clauses employed is an increase in their variety and in the different kinds of phrase and expression which may be used as alternatives for them. Variety in these directions rather than mere number would seem to reflect a greater flexibility in the movement of the mind through the realm of ideas. It is interesting to note that, judged by our results, girls would appear to be roughly a year ahead of boys in acquiring skill in managing a variety of dependent clauses. The following table shows how they compared with one another in the essays examined:

AVERAGE NUMBER OF DIFFERENT KINDS OF DEPENDENT CLAUSE
FOUND AT DIFFERENT AGES

AGE	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15
Boys . .	1.0	1.6	2.4	2.9	3.4	3.8	4.0	4.2
Girls . .	1.7	2.1	2.8	3.3	3.9	4.3	4.6	4.8

6. ADJECTIVAL CLAUSES

The comparative absence of adjectival clauses in the essays of the English children at the lower age-levels calls for some comment. There is, of course, no need for children in conversation with one another to employ the relatives by which adjectival clauses are usually introduced: viz., *who*, *which*, *whom*, and *that*. Consequently, they do not employ such words in their writing, for they learn to employ such constructions only as they feel a need for them. Young children do not say, for example, *I once knew a man who had a brown beard*, but *I once knew a man, and he had a brown beard*.

It is a common practice among teachers to give formal instruction in the combination of such simple sentences as will produce a complex sentence with a relative pronoun as a link. But exercises with stereotyped material, however well devised, do not themselves generate the desire to apply what they are designed to teach. They appear to be concerned with a type of skill which is not needed till some two years later than the time at which they can be worked correctly with provided material. Thus, children can work the simpler type of exercise calling for the combination of two simple sentences by the use of a relative pronoun as a link at the age of nine, but such complex sentences do not begin to appear freely in children's work before the age of eleven.¹ Again, the type of complex sentence which requires the relative to be placed after a preposition governing a group of words which come between it and the noun to which it refers is not mastered in exercises by children of average ability before the age of twelve, and such sentences do not appear in children's own free work to any extent before the age of thirteen. For example, *I found the book between the pages of which I had placed the note for safety* is not the type of sentence which we should expect to find in the writing of a schoolchild in spite of the fact that it may be produced as a text-book exercise which has called for a combination in one sentence of the two sentences *I found the book. I had placed the note between its pages for safety*.

7. THE SIMPLE SENTENCE

In one way the early writing of young children resembles the narrative style of a good many of the Old Testament stories. Thus, in their free writing we frequently find short statements linked together loosely by means of the connective *and*. Taken separately

¹ Cf. F. J. Schonell, *Backwardness in the Basic Subjects* (Edinburgh, Oliver and Boyd, 1942). The author found 20 per cent. of children using the relative clause in the period ten to twelve years of age.

these statements would be classified at once as simple sentences, but one would be hard put to it to say whether, as they stand, they form one sentence or more, and if more, how many. The example from the story of David and Goliath has already been referred to in Chapter III. Many of the older teachers in this country would never have allowed the translators of the Authorized Version of the Bible to get away with so many *ands*. "*And David hasted and ran . . . and put his hand in his bag and drew thence a stone, and slang it, and smote the Philistine in his forehead.*"

At least one American writer¹ has attempted to calculate the percentage of simple sentences in children's writing, and how far there is an increase or decrease with age. It is difficult, however, to see how the initial problem of deciding how such sentences as the one quoted above are to be counted. In any case, a sentence-count would probably do little more than show that there is an increase in the use of complex sentences with age, a fact well-enough known already.

It should be added that at the lowest age-levels there may be found a considerable difference in the percentage of dependent clauses between one school and another on account of the practice of teachers who dislike the *and-and* type of narration and insist that all spoken answers and written statements by children should take the form of short simple sentences, each containing one idea and no more. Needless to say, this is a practice to be deplored. The child who sees a picture of, let us say, *a girl dancing happily* is being prevented from developing naturally if he is taught to describe what he sees (inadequately as he must) in three short sentences—for example, *I see a girl. She is dancing. She is happy*. Surely, the degree to which a child is capable of taking in several things at a glance, and holding them together in the mind in due relation to one another, should determine the complexity of his sentences, and not some preconception as to the course which his linguistic development ought to take. Schools which were found to be adopting this straitlaced kind of practice were avoided when a selection of children for the purpose of our analysis was made.

8. VOCABULARY: SPOKEN AND WRITTEN

We have already said that the amplification of the simple sentence, as such, to carry a fuller or more precise meaning, may be brought about by means of qualifying words, prepositional phrases, or infinitive expressions.

¹ LaBrant, *op. cit.*

Once a reasonable fluency has been achieved by children an enlargement of their vocabulary soon begins to show itself. Unfortunately, this enlargement is too much of a haphazard one in which fresh words are used without much discrimination. Living as they do in a world where the biggest and the largest words seem to be at the command of salesmen and advertisers, children are apt to get the impression that their own written language ought to be a somewhat grander affair than their everyday speech, so that when they take up their pens they ought to discard simple words like *go*, *get*, *give*, *take*, *see*, *wish*, and *buy* and employ such words in their place as *proceed*, *procure*, *present*, *accept*, *perceive*, *desire*, and *purchase*. It is in this way that *houses* become *residences*, *tooth-pastes* become *dentifrices*, and so on.

At the same time children fall under the influence of the numerous school tales and adventure stories of the thriller type which they read, with the result that they like to write about men and women who do not *walk* but *stalk majestically*, *lurch unsteadily*, or just *waddle* along; who do not *look* at you, but meet you with a *piercing gaze* or a *surly glare*; who do not *eat* and *drink* their food, but *guzzle* or *gulp* it; in short, whatever they may happen to do will usually be *sensational*, *amazing*, *marvellous*, or *incredible*. No wonder, then, that in their early years the children who write most vigorously fail frequently to use words with due discrimination.

It should be noted, too, that the unusual size of the vocabulary of English—greater than that of French or German—is by no means an advantage to those who have but half mastered it. The very wealth at their disposal leads only too often to prodigality in its use. Where three or four words have much the same meaning care is not always taken to see that the one selected is the best that might have been used. Nevertheless, it is as a rule rather early to insist at the lower age-levels on too careful a choice of word in children's composition. The natural liveliness and charm which spring from an excited interest in any subject which has caught their attention ought to be preserved. An attempt to root out every word wrongly used is usually made only by those who prefer dull and correct writing to almost everything else.

9. SUITABILITY AND PRECISION IN THE USE OF WORDS

In view of what has just been said it must be one of the principal tasks of the teacher of older children to lead children to discriminate closely between quasi-synonyms. When they read, for example, that "there he stood on the veranda placidly

smoking his pipe" they must be trained to ask themselves what they would ordinarily say instead of *placidly* (e.g., *peacefully* or *quietly*), and then to proceed to discover how *placidly* differs from these words. Clearly, the meanings of words taken in isolation is one thing; whether these meanings suit the larger context in which they are present is another matter. For example, in the following sentence written by a child, "the buds and the birds are bursting, the former into blossom, and the latter into song," while it shows a remarkable command of zeugma and while the words *former* and *latter* are correctly enough used as words, they are better suited to scientific discourse than to an essay on spring. Older children will understand this, and they may also be led to appreciate the circumstances in which it may be legitimate to refer to a lie as a *terminological inexactitude*, and perhaps gain an insight into what the problem of diction is.

The question of precision in the use of words becomes most important in the presentation and re-presentation of the subject-matter of the various branches of systematized knowledge. Here we are compelled to employ the language of the subject if we are to avoid woolliness and ambiguity. Could we say, for example, what is meant by *vertically opposite angles*, *glandular secretions*, or *specific gravity* in simpler words? So important is precision in this connexion that school subjects used to be taught through series of definitions which had to be learned by heart, though, it must be confessed, often without a proper understanding of their meaning. Professor Walter Raleigh was no doubt thinking of this practice when he wrote in his essay *On Style*:

Mammal, amphibian, coleoptera, dicotyledon, cryptogram—all these terms, which if they were translated into the language of a peasant would be seen to record very simple observations, yet do lend a formal majesty to ignorance.

Nowadays, we are not so open to the kind of censure here implied; we manage to get our young pupils to understand something of the school subjects in terms of concrete instances; definitions, we say, should come at the final stage in instruction and not at the first; unhappily, this frequently means that the generalizations which they embody do not come at all.

Whenever, therefore, a general term is employed incorrectly or a showy word which is not in place it is most useful for the teacher to ask the child using it what would be said instead in ordinary conversation, and then to demand a statement of the difference between the everyday word and the word selected. Where this difference cannot be stated by the child there is obviously no place for any but the simpler everyday word.

10. PREPOSITIONAL PHRASES AND INFINITIVE EXPRESSIONS

There appears to have been no systematic study of the various types of prepositional phrase and infinitive expression used by children in their writings. In the essays analysed by the present writer prepositional phrases abounded; those which predominated at the age of seven were adverbial place-phrases (*in the grate, by the fire, on the shelf, behind the door, etc.*). At the age of eight the average child began to use adverbial time-phrases frequently (*in the morning, after dinner, by six o'clock, etc.*), but at no age were time-phrases used with anything like the same frequency as place-phrases. At all ages place-phrases numbered over 50 per cent. of the total prepositional phrases found; the percentage of time-phrases did not rise above 25 per cent. at any age. The prepositional phrase functioning as an adverb of manner began to appear freely at the age of nine. Other adverbial prepositional phrases do not seem to appear freely till much later.

Most of the prepositional phrases employed by children in their writing are those to be found in everyday speech, but forms often appeared which were clearly the result of school instruction—for example, those which were due to the belief that it is wrong to end a sentence with a preposition. Children will learn to write such sentences as *We soon reached the tower to which we had been led*, though they will continue to say in conversation *We soon reached the tower we had been led to*. Where the pedant drives them hard they will even write *For what are you looking?* instead of *What are you looking for?* We may, perhaps, safely say that until the senior stage of school education is reached it is unwise to teach constructions for use which are not those of everyday speech; these must wait till the child has need of them, till situations arise naturally that make it necessary for him to write formally rather than informally.

The infinitive expression with *to* appears in the earliest writing of children, for the simple reason that some of the commonest English verbs require the infinitive complement whenever they are used. At the age of seven the verbs *have to, try to, began to*, etc., occur frequently. The infinitive of purpose also appears freely as in *we went to see*. The infinitive used adjectivally begins to appear at the age of eight in expressions like *time to go, money to spend, and things to buy*. The infinitive used as a noun but rarely, however, during the primary stage of education, though the following mature effort occurred in the work of a nine-year-old girl among the children tested: *Let this be a lesson to you not to run across the road without looking where you are going*.

It may, perhaps, be usefully added that the brighter children at the top of the junior school learn to make free use of some of the rhetorical devices dependent on word-order for their effect; these are mostly the tricks of inversion which they have come upon, and been impressed by, in their reading—for example, *was the answer; said he; thus was ended a delightful day.*

It must be clear that the field of inquiry indicated in the above paragraphs is still largely virgin soil for the student interested in children's linguistic development; it is not only uncultivated, it is unexplored.

11. NARRATIVE TECHNIQUE

The relation of two events in time which do not occur in simple succession is described most naturally by means of a time-clause. Indeed, as has already been shown, the first type of dependent clause to be used freely by children in their writing is the dependent adverbial time-clause introduced by the connective *when*. In some schools, 90 per cent. of the dependent clauses used by children of seven and eight years of age are *when* clauses. During the primary stage of education children learn to vary *when* with *after*, *while*, and *as*, and to show some appreciation of the distinctive meaning of each of these connectives. By the age of ten and a half most of the temporal connectives are to be found in the written compositions of children, the least frequently used being *since*, *as soon as*, and *before*.

In the post-primary years the better read children soon begin to employ participial, gerundial, and absolute expressions as a further means of showing the relation of events in time. It appeared very often, however, in the essays analysed that a child would employ a particular form at all costs over and over again, as though it were a trick he had just picked up more or less mechanically from his reading. The percentage of participial and similar expressions in relation to the total number of clauses and simple sentences found was not high at any age and did not rise above 5 per cent. even at the age of fourteen.

As early as the ages of seven and eight the average child has already become accustomed to the colloquial use of the active participles and the gerund; he will have talked and written, for example, a good deal in terms of such phrases as *go shopping*, *sit knitting*, *saw the horse running away*, *heard mother calling me*, and so on. But the literary constructions represented, for example, by such a form as *Sitting up, I reached for the bell-rope*, do not appear spontaneously in any number in children's work till the post-primary stage has been reached.

Neither the participial nor the gerundial or absolute forms of expression are commonly used in conversation, and this is the reason why they are but rarely found in children's compositions at the primary school stage. Nevertheless, children will show that they are familiar with these constructions by being able to say how a sentence beginning with a participial or absolute expression should be ended. To illustrate this point the present writer devised a number of such sentences, making five examples of each pattern chosen, and asking children from the age of eight upward to make a sentence of their own to match it. The following is the sentence-pattern (with present participle active) which was found easiest to imitate, over 50 per cent. of children managing their exercise correctly by the age of nine and a half: *Taking the stick in his hand, Tom went to the gate.* By the age of ten more than 50 per cent. could imitate the perfect participle active construction represented, for example, in *Having eaten their breakfast, the children set off for school.* The most difficult sentence-pattern, which was not imitated successfully by 50 per cent. of the children before the age of twelve and a half, was the absolute expression, as, for example, in *Dinner being ready, we decided to stay.* (See Appendices, p. 301.)

12. THE USE OF PARTICIPLES AND GERUNDS

Leaving aside the colloquial uses of the participle and the gerund already referred to, we may say that the various participial, gerundial, and absolute expressions of the literary kind are usually mastered in the following order, to judge, that is, from the essays just described.

At nine years of age the brighter children begin to use the present participle active (*Sitting up in bed, I looked round*). At ten the perfect participle active appears (*Having found the shovel, he went off for some coal*). These remain, as a rule, the only two forms mastered by able children during the primary stage. In the post-primary years the passive participles appear: one meets the present participle 'passive' (*Being the person in question, I was naturally interested*), the perfect participle passive (*Having been treated so badly, Tom refused to go again*), and the past participle passive (*Smothered in dust, he got up*).

Parallel with the appearance of the participial constructions there is a growth in the mastery of the gerunds, and in the following order: first the form which shows the gerund as the object of a noun (*I like washing myself in hot soapy water*), and then the form with the gerund as the object after a preposition (*By taking a short cut we got home an hour earlier*). Needless to

say, the absolute use of the gerund is most rare in children's compositions.¹

It is only when children begin to mature and to realize that events may not only succeed one another in time, but also coincide with, overlap, and be otherwise related to one another in time in the most subtle ways, that a narrative technique appropriate to every kind of occasion is needed. Many children pick up the various narrative devices used by their favourite authors without distinguishing clearly among them. This can be illustrated experimentally. The present writer staged twenty situations in front of senior school children who were asked to select the most accurate description of what was being enacted before their eyes from among four possible descriptions set out on sheets of paper which they had been given. (See Appendices, p. 317.) The test proved too difficult for the average child of thirteen in the senior schools where it was given, the mean score being 9.3 out of twenty. Here, for example, are four sentences from which the children had to select the best descriptions of the writer's action in walking across in front of the class reading:

While Mr W. walked across the room he read a book.

Mr W. walked across the room and read a book

Mr W. walked across the room reading a book.

Mr W read a book as he walked across the room

In the circumstances the third sentence was the only one which could be accepted as an accurate description of what had taken place. To make the others satisfactory, "from a book" must take the place of "a book" in the first sentence; the second must contain some such phrase as "at the same time;" while the fourth should begin "Mr W. was reading from a book."

¹ It has been frequently observed that there is a parallelism between individual and racial development. It does not always follow, however, that such parallelism is to be found in the linguistic sphere, though we instanced an example of it at p. 73. It must not be inferred, for example, that the simpler a civilization the simpler also will be the linguistic constructions of its people. Here, as in the language of children at school, a great deal depends on literary tradition and teaching method. The unschooled peasant of the west of Ireland, for instance, speaks his native Erse with considerable grace and a sense of literary style. This is largely because the recital of ballads and folk-tales has been the means of familiarizing Irish children with many constructions of a kind not usual among people without such an upbringing. Carrying over these constructions into the speaking and writing of English, they have given us the racy and elegant Anglo-Irish which is to be read in the plays of J. M. Synge. I am assured by one of the translators of that fascinating narrative of life on the Blasquet Islands, *Twenty Years a-Grouing*, that the following typical passage is as faithful a translation as can be made of the original of O'Sullivan, the peasant author:

I was in the middle, *holding* the jib-sheets, jets of foam *flying* aboard, the sea *heaving* out of her bows, the waves *thundering* around us, a white path of foam behind, the pulley at the mast-head *whistling* in the wind, and the rain *falling* heavily.

13. THE ABILITY OF CHILDREN TO PLAN A WRITTEN COMPOSITION

Having dealt at some length with the ability of children to construct sentences with increasing skill and effect, we may turn to a consideration of how far we may expect them to be able to design a piece of composition as a whole. Most writers on the teaching of English think that from the outset children should be taught to plan their written work so that it has, for example, a beginning, a middle, and an end. Mr J. H. Fowler¹ praises the French practice of insisting that even in the first stages of writing every child must be able to produce essays written to a plan; arrangement and proportion are taught in the earliest exercises. He recommends, accordingly, that English children from the age of eight onward should be provided either with an outline of the topic they are to write about or, as he would prefer, a suitable plan should be developed in oral discussion between teacher and class.

It would be easy to demonstrate that the best written work of children is rarely produced in this manner. Fresh, lively writing by children springs from the unprompted treatment of subjects familiar through everyday experience, developed in language which is partly colloquial and partly derived through wide reading of interesting books, as a result of which the children have caught something of the tone, diction, and syntactical constructions of a favourite author. Moreover, the ability to plan compositions must depend on the subject to be dealt with. In the essays on *Father keeps House* the children were allowed sufficient time to bring their work to a suitable end—for example, with the return of mother—but it was apparently not easy for them to do this before the age of ten; it was found that 50.1 per cent. of the girls had rounded off their compositions satisfactorily at nine plus and 50.5 per cent. of the boys at ten plus. A much greater proportion of both boys and girls were able to bring a composition on *A Day when Everything went Wrong* to a satisfactory ending at these ages, but a much smaller proportion a composition on *Woolworth's* in which a suitable ending has to be sought.

In view of these facts the present writer set out in confused order a child's hundred-and-fifty-word composition of sixteen sentences and gave copies of it to a large number of children between the ages of twelve and twelve and a half. It was explained that these sentences could be rearranged in proper order in four paragraphs with four sentences in each paragraph. The children were instructed to mark the sixteen sentences which were set out one under another, as A, B, C, or D, according to the paragraph to which they belonged. Less than 6 per cent. (5.7

¹ J. H. Fowler, *The Art of Teaching English* (London, Macmillan, 1932).

per cent.) were able to place the sentences correctly in their proper paragraphs; nearly 50 per cent. (47.9 per cent.) got one set only of the four correct, while over 25 per cent. failed to make up a single set correctly.¹ A somewhat simpler test, calling for the logical rearrangement of eight disarranged sentences on *Our Blood*,² was tackled with less than 50 per cent. success at eleven years of age.

These facts suggest that if a plan for a composition as a whole is to be insisted on then we should at least wait till the child is able to frame single sentences before he puts them on paper. After this stage is safely passed narrative subjects should at first be set of a kind in which the end to be reached can be plainly foreseen, so that the child need only recount the events that lead up to it. At a later age care needs to be taken not to involve the child in having to write on unfamiliar subjects which require thoughtful planning in addition to a search for material; one difficulty at a time is usually enough for him to tackle. In any case it would appear to be wise, if the natural freshness and liveliness of children's writing are to be preserved, not to insist on a plan before the age of ten with bright children, or eleven with children who are backward or slow. Too great an emphasis on technique will usually produce a kind of writing which is correct but lifeless, informative but such as no one will particularly want to read.

14. LETTER-WRITING

Letter-writing calls for a simple form of planning not beyond the capacities of children, provided that the occasions for writing are chosen sensibly. In some ways, of course, letter-writing is one of the most difficult tasks which any person will have to face unless he is well practised in social intercourse. The letter-writer must learn among other things how to ask a favour without appearing to fawn, how to secure sympathy without appearing to demand it, how to please without obvious flattery, how to decline an invitation without offence, and how to express gratitude without gushing. The difficulties to be overcome are clearly many: there is the difficulty of being sincere; the difficulty of realizing how what one writes will be interpreted; and the difficulty of using when necessary the proper degree of tact in approach which only a long apprenticeship to the epistolary art can give. All the great English authorities on the teaching of English have advised the teacher to devote particular attention to letter-writing. We may quote John Locke and Dr Johnson as sufficiently representative of this point of view.

¹ See Appendices, p. 315.

² See Appendices, p. 315.

"When," says Locke¹ of children,

they understand how to write English with due connexion, propriety, and order, and are pretty well masters of a tolerable narrative style, they may be advanced to the writing of letters; wherein they should not be put upon any strains of wit or compliment but taught to express their own plain, easy sense without any incoherence, confusion, or roughness.

"The importance of writing letters with propriety," says Johnson,²

justly claims to be considered with care, since next to the power of pleasing with his presence, every man would wish to give delight at a distance. This great art should be diligently taught, the rather because of those letters which are most useful, and by which the general business of life is transacted, there are no examples to be easily found. It seems the general fault of those who undertake this part of education that they propose, for the exercise of their scholars, occasions which rarely happen, such as congratulations and condolences, and neglect those without which life cannot proceed. It is possible to pass many years without the necessity of writing panegyrics or epithalamiums, but every man has frequent occasion to state a contract, or demand a debt, or make a narrative of some minute incidents of common life. Of these subjects, therefore, young persons should be taught to think justly, and write clearly, neatly, and succinctly, lest they come into the world without any acquaintance with common affairs, and stand, idle spectators of mankind, in expectation that some great event will give them an opportunity to exert their rhetoric.

15. THE COLLOQUIAL STYLE IN WRITING

The extent to which literary forms should be employed by children in their letters will depend on the subject treated. In letters to friends they will write, and should write, pretty much as they speak. Indeed, it must have struck the reader that since in conversation we can convey our meaning quite successfully by means of varied gesture, intonation, pitch, rhythm, and emphasis, there is no need to resort to the syntactical devices upon which literary language has frequently to fall back in order to avoid feebleness and ambiguity. For instance, in asking the question, "What are you going to do?" a speaker may express any one of a number of different moods—anxiety, exasperation, astonishment, distress, curiosity, and so on—merely by the manner in which he utters the words. Moreover, he may be thinking mainly in terms of any one of the four principal

¹ John Locke, *Thoughts on Education* (1693).

² Dr Samuel Johnson, Preface to *The Preceptor* (1757).

words—*what* or *are* or *you* or *do*—and he may deliver himself of his emphasis accordingly. These are the things which help to make speech more direct and forcible than written language can easily be. Realizing this, a writer may plan to put his speech down on paper just as it would come from him, and then proceed to underline the words and phrases which stand out in his mind; by doing so he will convey something of his feeling as well as of his thought. But the special pains that have been taken to make writing convey both thought and feeling with the utmost accuracy and effectiveness, whatever the subject treated, will always include more than the trick of underlining, the equivalent in handwriting of the printer's italicizing practice.

It has often been remarked that underlining is an essentially feminine habit.¹ But if so it must be not because woman's language is inferior to man's, but because it is less influenced by literary models and in its own way more fluent and flexible, more expressive of concrete meanings, and less concerned with abstract theorizing. An intelligent woman knows intuitively that the circumstances in which letter-writing is carried on are such as to bring down the charge of pedantry on the heads of those who construct their sentences on the model of the formal essay or the newspaper leading article, employing appropriate degrees of subordination among the clauses of their deliberately framed sentences and taking advantage of the strategic positions in these sentences to place there their more important words. Great scholars are not as a rule the best letter-writers, whereas intelligent women frequently are. As Dorothy Osborne, one of the best of them, said:

All letters should be free and easy as one's discourse. 'Tis an admirable thing to see how some people will labour to find out terms that may obscure a plain sense. Like a gentleman I know who could never say "the weather grew cold" but that "winter began to salute us." I have no patience with such coxcombs.

16. TAKING THE OTHER POINT OF VIEW

The ability to see things from the point of view of another person which is developed through the necessity of having to foresee how one's letters will be read by their recipients is largely a matter of intellectual and social maturity. As long as the child does not realize that his own point of view is a private one, and one only among a number of possible points of view, he will

¹ The letters of Queen Victoria show the tendency to a marked extent. Jespersen's chapter on the language of women in his book, *Language, Its Nature, Development, and Origin*, should also be read in this connexion.

neither be able to see things as others see them nor, indeed, realize that any other point of view but his own is possible. Thus, the child of six or seven will usually be confused if it is pointed out to him that he will have one fewer brothers than his sisters, and they one fewer sisters than he. An interesting fact that came to light in a secondary school entrance examination a few years ago illustrates this very well. As a reading test the eleven-year-old boys and girls taking the examination were given the story to read of how King James V of Scotland was set upon by a band of gipsies while he was taking a country walk incognito. A farm labourer saw what was happening and went to the King's assistance. Afterwards the King invited his rescuer to visit him, and then, but not before, made himself known. As a written exercise the children were asked to continue the story in the words of the farm labourer at the point where he is on his way to see the King. The result was that 202 out of 531 taking the examination used language which showed they had failed to realize that the farm labourer would not know before he arrived at the royal palace who it was he had really helped. This indicates clearly the value of exercises that give the child practice in looking at things from points of view other than his own.¹

There must be many stories which present the same sort of difficulty to little children. For instance, one of the stories in the traditional history courses for children is that of the first English Prince of Wales. If this story is told and explained as carefully as possible to them children will still find it extremely difficult to place themselves in the position of the Welsh nobles visiting the castle at Carnarvon to hear King Edward's announcement of his intention to give them a Welsh-born prince who could not speak a word of English. If young children are told that the Welsh nobles were taken aback when they saw the baby prince brought in and asked to select the best among four possible reasons for their surprise (three of which are wrong) they show singularly little appreciation of the right reason. A classification of some four hundred answers shows that roughly 33 per cent. of children at eight and a half, 45 per cent. at nine and a half, 60 per cent. at ten and a half, and 80 per cent. at eleven and a half are able to select the correct answer.

¹ Many amusing anecdotes will no doubt be recalled which also illustrate the inability of children to see things in an impersonal light. Here are two:

- (1) Correct the following: "It was me who broke the window." Answer from a child who is no pedant: "It wasn't me who broke the window."
- (2) Why is it wrong to say: "Don't do it unless you can help it"? Answer: "Because if you did you might get hurt."

17. THE IMPERSONAL VIEW

Many exercises set to children of from nine to eleven years of age to give them opportunities of looking at things from the point of view of others—e.g., from the point of view of characters in a story other than the narrator—prove more difficult than may be realized. More difficult still must it be for young children (and even to uneducated adults) to assume the rôle of impartial spectator in narration; they cannot easily imagine themselves as entirely outside the events which they describe; they must identify themselves with at least one of the persons of whom they speak or write, and see what has happened to these persons as still taking place before their eyes. In conversation they often prefer to use the dramatic present with its “I says” and “he says” instead of an impersonal account of a past event in the past tense, and not so much for the sake of effect as because they have not yet learned to narrate in any other manner. The exercise of writing serves to concentrate their attention on the need for an advance on this method of narration. In his essay on *History* (1828) Lord Macaulay¹ has a short paragraph which will illuminate our subject:

If an educated person were giving an account of the late administration he would say, “Lord Goderich resigned; and the king, in consequence, sent for the Duke of Wellington.” A porter tells the story as if he had been behind the curtains of the royal bed at Windsor: “So Lord Goderich says, ‘I cannot manage the business; I must go out.’ So the king says, says he, ‘Well, then, I must send for the Duke of Wellington—that’s all.’”

The habit of viewing events from an emotional distance is easier to acquire in writing than in speech, and it has the advantage that it enables us to disentangle ourselves at our leisure from purely personal reactions. The importance of encouraging children to discuss what they have written as impersonally as possible is not always realized. We must begin with the more homely topics, however, since in some matters young people may lack the language for dispassionate expression.

18. HOW FAR CAN WRITING BE TAUGHT?

The virtues of good prose writing have been variously stated. The most important are: (1) clearness, (2) interest, (3) orderliness, (4) simplicity, (5) appropriateness, and (6) euphony. How shall we secure them?

We have already suggested that the progress of children in

¹ *Miscellaneous Writings and Speeches.*

the art of writing English is marked by a control over an ever-widening range of words correctly used, a growing sensitivity to the kind of diction best suited to the subject written about, an increasing skill in the construction of sentences designed to match the increasing complexity of their thought processes, and a steadily developing power of planning a piece of writing as a whole, with due attention to order and proportion in the ideas expressed.

It has been suggested that the best writing by children comes largely from wide reading in interesting books. By comparison, manuals which promise aid in teaching the child to write well are rarely worth the time and trouble spent on them. The argument against the manual is that children who have not felt the need of using a particular device or construction in their writing do not develop the need as the result of a set lesson on its value. It is not found, for example, that children who have had lessons on metaphors and similes, or on the construction of complex sentences with material supplied for them, produce compositions which contain more metaphors and similes or more dependent clauses than children who have received no such lessons. Neither can children be taught to write well who have no ear for a good cadence, or who take no pleasure in words for their own sake.

We have indicated, however, some of the lines along which useful instruction can be given. We have said that a feeling for order and arrangement in compositions can be gradually instilled but only in connexion with subjects of suitable difficulty. We have also suggested that the teacher can do much to convince the child that good writing is not necessarily fine or fulsome writing. Clearness and precision may be taught negatively; that is, by the unremitting eradication of faults of woolliness and verbosity. In other words, it is the art of presenting such ideas as one has that can be cultivated by teaching. But interest and euphony are natural virtues not easily come by. Generally, one must say that the best instruction has its roots in a close criticism of the pupils' own efforts at writing well. Formal and prescriptive teaching is by no means sure of securing good results; indeed, it may be that the wisest plan is that of Coleridge's teacher who set exercises and in correcting them "showed no mercy to phrase, metaphor, or image unsupported by sound sense or where the sense could be conveyed with equal force and dignity in plainer words."

In fine, it may be that on the whole the teacher had best confine himself to discreet praise, popularizing the kind of writing he values when he finds it in the work of his pupils, and

to practising the arts of criticism and correction which, properly understood, will not be destructive or negative in their effects and restricted to blue-pencilling (or red-inking) errors in spelling, punctuation, capitalization, and grammatical concord, but will manifest themselves in stimulating encouragement and guidance, informed by sympathy and directed with insight and skill.

19. THE THREE-SENTENCE COMPOSITION

It is an excellent practice to require children from time to time to write all that is of interest or importance to them about a topic in no more and no fewer than three sentences. They are thereby compelled to exercise whatever judgment and skill they can command for a perfectly definite purpose. They must understand what a sentence is; they must get their ideas clear before they put pen or pencil to paper, they must learn to concentrate on what is essential to their purpose and ignore what is not; and they must order their effort so that what they have to say is properly introduced, suitably developed, and brought to a satisfactory conclusion.

The method thus gives the teacher a sound criterion for judging the work of his pupils, and it is one which they can be readily taught to appreciate. Well-taught children, for instance, will usually be able to detect such faults as failure to get quickly off the mark, inability to distribute ideas evenly among the sentences, weakness in sentence-construction, lack of due emphasis on important points, and so on. They can also be depended on to make sensible suggestions for the improvement of poor efforts. If an occasional assembly can be arranged at which some of the best three-sentence compositions from several classes are read aloud by their authors, then the measure of applause that may well be allowed to follow will serve to indicate the degree of success achieved in presenting a subject with interest and conciseness. Time and thought will not have been wasted if, in preparation for such assemblies, a three-sentence composition has been subjected to repeated revision.

Careful attention will need to be given, of course, to the choosing of topics so that children of limited capacity do not attempt flights of thought and language that are beyond their range. Simple narrative work, for instance, is better suited to such children than explanations of semi-scientific processes or the recapitulation of arguments. Wisely managed, children who are trained in the way suggested will learn what type and length of sentence suit them and what sort of linguistic techniques are not so far beyond their reach as to be impossible of acquirement.

As a guide to the kind of thing which may be expected, from the abler children at least, after a little instruction and exercise, the following samples of finished work are tentatively offered as criteria for use in the evaluation of the efforts of other children. It should be understood that these samples represent not always the first versions but often the second (and sometimes third) revisions by their authors. In comparing one age with another development will be seen to take place in sentence-length, sentence-complexity, phraseology and vocabulary, in the skilful subordination of the less important to the more important ideas, and, above all, in the imaginative grasp of the chosen subject.

A THREE-SENTENCE WRITTEN COMPOSITION SCALE

AGE 8

Once a woman kept a hen that laid an egg every day. She thought to herself that if she gave her hen twice as much food it would lay twice as many eggs. But the hen got fat and lazy and wouldn't lay any eggs at all.

AGE 9

Joan of Arc was a brave French girl who was told by the angels that God wanted her to drive the English out of her country. She went to the King and told him her story and he gave her permission to lead his soldiers into battle. But after she had won many great battles somebody betrayed her to the English who had her burnt as a witch.

AGE 10

One day a dog stole a piece of meat from a butcher's shop and ran off home to enjoy it. On his way he had to cross a stream and looking down he caught sight of his reflection in the water. He thought it was another dog with another piece of meat and in snatching at it he dropped his own piece of meat which disappeared down the stream.

AGE 11

The Pied Piper of Hamelin is a poem about a plague of rats which invaded the town of Hamelin a long time ago. The people were in despair until the Pied Piper said he would rid them of their vermin on condition that they paid him a thousand guilders. After charming the rats into the Weser he was refused the reward and so in revenge he charmed away the children of Hamelin into a cavern in the hills and they have never been heard of since.

AGE 12

The Children's Hour covers a large variety of subjects to suit the different tastes of listeners, and although it previously occupied

a whole hour, in this way getting its name, it is now cut down to forty minutes. It is broadcast every evening at 5.20 and is arranged by Uncle Mac, whose task it is to provide for the entertainment of the children. Generally, the entertainment takes the form of stories or interesting talks by well-known people, while programmes of music are often included.

AGE 13

Swimming is an excellent form of exercise for people of all ages as it keeps the arms and shoulders, the legs and back in a healthy condition, and compels the swimmer to devote his attention to deep and regular breathing. Swimming is also a good sport which gives pleasure to all who practise it, whether old or young, especially when the weather is sunny and warm. In addition, it is very refreshing to take a plunge in the hot days of summer into a cool stream or outdoor swimming bath.

AGE 14

The Ancient Mariner is a fairly long poem and is said to have been written by Samuel Taylor Coleridge in order to get money for a holiday. It tells the story of an old mariner who sailed away down towards the South Pole, shot an albatross, thus causing by his unlucky act the death of all his shipmates, and was then driven back into the Tropics where he suffered terribly from exposure and thirst before his ship found its way home again. It is a thrilling story which calls up in a vivid fashion to the mind of the reader everything that happened to this unfortunate man.

20. THE WELL-CONSTRUCTED LONG SENTENCE

An alternative method of helping children to plan what they have to say in advance of saying it and also to "write clearly, neatly, and succinctly," to use Dr Johnson's words, is to set them to describe objects or pictures in single sentences. We have already referred to our picture-scale in the chapter dealing with continuous speech. Of the series of pictures already referred to the least understood by little children were those that showed actions in progress linked in the relation of cause and effect. Through lack of experience as well as through lack of insight a good many of the children under seven years of age were unable to think themselves imaginatively into certain of the situations depicted, though to do this was essential for the successful description of what was seen.

The complexity of the sentences which children brought up in the same linguistic environment employ will depend, then, partly upon the number of things which they are able to grasp together in a single act of attention and partly upon the range and subtlety of their powers of interpretation (i.e., on their

ability to see the relations in which these things stand to one another).

We have indicated in our picture-scale what we think is the upper limit of the ability of infants in describing what they see. But at the mental age at which the scale abruptly ends we find the factor of interpretation beginning to assume more and more importance. The following sentence, for example, descriptive of a picture in a child's reading-book, could only spring from a mind of exceptional capacity, even though the boy who framed it was but ten and a half years old: *This is a picture (he wrote) of a young man seated on a chair looking sad and lonely, with his arm in a sling and his dog resting his nose against his master's knee and looking up at him as much as to say, "I am sorry."* But even in the simpler descriptions we have found something more than mere description of externals. At the upper limit it is doubtful whether many of us could express without undue effort much more than is conveyed in the following description of the familiar school picture, "When did You Last see Your Father?" *It shows us a boy standing in front of a table where some soldiers, evidently Round-heads, are questioning him as to the whereabouts of his cavalier father, while his mother and his sisters are anxiously watching him from behind.*

The close study of carefully chosen pictures followed by attempts to describe their subjects in single comprehensive statements should be well worth the attention of those teachers who still have some regard for what has been called "the architecture of the long sentence," which, well-contrived, is "the fine flower of prose writing." The skilful management of the long sentence is not a simple matter. It involves a mastery of balance and rhythm; it calls for the proper emphasis of the more important elements and for the due subordination of what is less important; it entails the most economical packing of ideas, and this in turn necessitates learning how and when to substitute phrase for clause and phrase for word. All this calls for assiduous application and constant scrutiny and revision of what one has written. But in the end we shall be able to appreciate what Bacon called "the choiceness of the phrase and the round and clean composition of the sentence, and the sweet falling of the clauses." What thought, and feeling too, must have gone to the construction of the well-wrought sentences that follow, the first representing the sixth revision by a girl of thirteen, and the second the fifth revision of a boy of fourteen

(a) *The Return of Persephone.* This picture shows us Demeter welcoming with outstretched arms her long-lost daughter, Persephone, who is being borne up in the arms of Hermes from the

underworld where King Pluto had for so many months kept her a prisoner.

(b) *The Angelus*. Here we see a potato field where two poorly dressed peasants, a man and a woman, have ceased work for a time and are standing with bowed heads in an attitude of prayer, listening to the Angelus which is ringing in the distant church.

PART II

THE LINGUISTIC SETTINGS

CHAPTER VI

THE CHILD IN THE WORLD OF OBJECTS AND EVENTS

1. DISTINGUISHING SELF AND NOT-SELF

In the previous chapters we have been concerned to show how the various linguistic skills are gradually perfected; we must now consider in some detail the main types of setting in which they are employed.

William James once described the world of the newly born infant as a "big, blooming, buzzing confusion." The human infant, in common with the rest of the animal creation, soon learns to make something intelligible of this confusion, to distinguish certain objects and events in it one from another, to see them in relationship to one another and against a more or less steady background, and, when necessary, to recall them clearly to mind after they have passed out of the field of perception. The fact that the human infant goes so much farther in these directions than the higher animals is largely due to his mastery of an instrument which they lack—*viz.*, a language by means of which the rich and varied experience of countless generations of men and women has been sifted, valued, and stored ready for his use.

An important step forward beyond the stage during which everything is, as suggested, a "big, blooming, buzzing confusion," is made when certain stable elements in the infant's environment become recognized as objects. What seems to happen is that particular groups of interesting sensations come to notice as habitually occurring together and in such a manner as to give rise to expectations that certain kinds of behaviour will probably follow. The perception of an object is, in short, the result of the joint activity of stable combinations of sensations and expectations of probable behaviour. It is during this period when the infant is beginning to see the outer world as the locus of interesting objects, contact with which produces recognizable results, that he acquires speech. Speech assists him to hold and extend the knowledge which originates through his exploration of the world, since the use of a name over and over again by an adult who observes the direction of his interest serves to render particular

objects or events identifiable, while his memorization of their names will eventually enable him to recall them when hearing them spoken of and they are no longer present to his senses.

At the same time there grows up, side by side with the infant's discoveries in the world of objects, an awareness of the distinction that exists between himself and all that is not himself. This distinction is gradually borne in upon him as the result of his own exploratory movements, the satisfactions and obstructions they meet with, and the pleasures and pains to which they give rise. It cannot be easy, however, for the inexperienced infant to disentangle himself from his actions so as to get a clear idea of himself as something apart from them. Life and experience must for some time resist analysis into actor, action, and thing acted upon. As one writer has declared, "A baby may pull his own hair so hard that he cries with pain, and yet he does not know that it is his own act that produces the pain."

2. THE RECOGNITION AND NAMING OF OBJECTS

The naming activity which the infant begins to pursue with so much zest in the second year of life proceeds side by side with an increasing power in analysing his perceptions. But the names which he learns may be used at first for anything but the objects as adults see them. For example, *bow-wow*, *puff-puff*, *quack-quack*, *tick-tock*, and *cock-a-doodle-do* may be names at the outset for the noises associated with the objects indicated rather than for the objects themselves as visible things. It is only by the infant's own application of a name to what he regards as fresh instances of the same thing that we learn what the name really conveys to him. Thus, a little boy who acquired the name *door* and subsequently applied it to the noise made every time his bricks tumbled down during play showed that for him *door* was the name not for the door seen but the door heard—*i.e.*, when it was slammed.

How easily we may be misled into thinking that our language is perfectly clear to children when it is not may be illustrated by a quotation from the writings of a missionary who wanted to know the word used by a Congo tribe for *table*.

There were five or six boys standing round, and, tapping the table with my forefinger, I asked, "What is this?" One boy said it was a *dodela*, another that it was an *etanda*, a third stated that it was *bokali*, a fourth that it was *elamba*, and the fifth that it was *meza*. . . . One lad thought that we wanted the word for tapping; another that we were seeking the word for the material of which the table was made; another had an idea that we required the word for hardness; another thought that we wished for a name for

that which covered the table; and the last, not being able, perhaps, to think of anything else, gave us the word *meza*, table—the very word we were seeking.¹

It is probable that, though every name learned is at first a proper name—associated, that is, with just one thing—not necessarily an object, sooner or later the discovery is made that many different things may carry the same name. One of the difficulties of the infant at this stage is to see why the same name should frequently be applied to things at first sight so unlike one another; for example, *dogs* and *chairs*, which may be of all sizes and shapes. His capacity for noticing eponymous features is as yet undeveloped. During a transition stage he will make many odd misapplications of names. Every one is familiar with the mother who spends much time and patient attention in getting her baby to cry *Dada* at the appearance of its father, only to find that it greets every male stranger in the same manner. It is, however, clear that whatever arouses in the infant the same feelings or associations as the thing for which a name has been learned will cause this name to be applied also to the thing it resembles. We shall deceive ourselves, as Jespersen says,² if we attribute to children a more complete and exact understanding of words than they are capable of. Only gradually and slowly will they learn to make automatic use of the time-honoured categories of Aristotle in their efforts to achieve a clear interpretation of what they see about them, to distinguish, for example, certain stable combinations of sense-data as objects with attributes and as wholes with recognizable parts, and note certain relationships between these objects (spatial, causal, temporal, numerical, etc.). Thought cannot move freely in dealing with the physical world except within this framework.

3. THE PROPERTIES OF OBJECTS

The next step forward in the child's understanding of the physical world lies in his grasp of the natural differences between common objects. He notices most readily, of course, those properties which he is instinctively interested in and his parents speak constantly to him about: thus, this food is *sweet*, that not so *sweet*; this table is *smooth*, that one *rough*; this plate is *heavy*, that one not so *heavy*; this dolly or teddy is *big*, that one *little* or *small*; this noise *loud*, that one not so *loud*; this ball *hard*, that

¹ Quoted in *The Meaning of Meaning*, by C. K. Ogden and I. A. Richards (London, Kegan Paul, 1923).

² *Language, Its Nature, Development, and Origin* (London, Allen and Unwin, 1922).

one *soft*; and so on. All mental advance depends on the progressive clarification of experiences, in consequence of which more and more objects and events are noted, and more and more of their qualities and relationships admit of being named and thought of apart from their immediate context. How far the abstractions, which the mature mind is able to detach from their contexts and use in fresh situations, are at all appreciated by children varies, of course, with their age, intelligence, and experience. Most of the general ideas at their command are not abstractions in the fullest sense, since they cannot be held in the mind apart from the concrete imagery of their usual settings.¹ It is for this reason that language is essential. The word *house*, for example, can stand for a house of any kind—mud-built, brick-built, wood-built, or stone-built; flat-roofed or gabled; detached, semi-detached, or one of a row; with one storey or more.

Good nursery training is planned to secure an acquaintance with the behaviour and the properties of objects and to develop through play and conversation the ability to talk intelligently about what can be done with them. This is an essential preliminary to all subsequent mental development. It seems to be pretty certain now that an understanding of what is meant by such terms, for example, as *longer* and *shorter*, *heavier* and *lighter*, *louder* and *softer*, *faster* and *slower*, and so on, which is fundamental to the success of all school instruction, comes much later to the child than a knowledge of the names of the things to which they may be applied, for indeed it comes through experimenting with things possessing comparable properties. In this way children, by learning to associate actions with phrases descriptive of them, come to understand the basic phraseology of their native tongue—for example, what is meant by putting clothes on *tidily*, lacing shoes up and buttoning coats *tightly*, pulling socks up *straight*, washing faces *thoroughly*, eating *slowly*, sitting up *straight*, holding hands *right* out, and so on. A complete understanding of the language in which we speak of the ordinary things of life is an indispensable basis for understanding any kind of language which refers only indirectly to those objects and events in the physical world within our everyday experience. In short, knowledge gained through description has no sure foundation unless it is based on knowledge gained by first-hand acquaintance with the world of objects and events.

¹ Cf. the following: "Thus progress is from a concrete vaguely apprehended to the same concrete more completely known and more exactly thought. True, the means is by a successive study of relations and qualities; but always as qualities and relations of the whole in question and not as independent existences" (J. WELTON, *The Psychology of Education* (London, Macmillan, 1911)).

4. PERCEPTION OF SPATIAL RELATIONSHIPS

In addition to noting and naming the innumerable objects of his environment, familiarizing himself with their behaviour, and discovering their more obvious properties, the young child has to learn to abstract and to observe the various types of concrete relationship that exist among objects and events, and at the same time master the language for talking about them. The commoner spatial relationships are among the earliest noted. At the nursery stage the names are learned for the simplest spatial relationships—*up* and *down*, *right* and *left*, *over* and *under*, *above* and *below*, *before* and *behind*, and so on. These names are learned in the course of active experience and in such a manner as to suggest that the names themselves are necessary for fixing attention on what they stand for. The act of abstraction at this level depends directly on them. It has been found by experiment that some 80 per cent. of children tested by an American research worker¹ were able to show that they understood what the terms *on top* and *behind* stood for, and that at five years of age, the terms *backwards* and *forwards* were first understood by most of them. But not more than 60 per cent. of the children could demonstrate that they had grasped the distinction between *tiny* and *huge*, while less than 50 per cent. were able to show that they understood the distinction between *far* and *near*. The present writer has also found that few children below the age of five who attempt to show in drawings what their nursery rhymes are about can give a proper interpretation to the prepositions that denote spatial relationships—for example, they mostly fail to represent in their drawings exactly what is meant by the cow jumping *over* the moon or the little mouse hiding *under* the chair.²

Only those who are ignorant of the part played in everyday perception by ideas acquired through learning the mother tongue in early infancy can hold the naive view that the power of spatial visualization is an innate gift enabling its possessor to gain a photographic representation of the external world, or believe that this gift is merely a matter of having the necessary sense organs for the passive reception of visual stimuli. It must be clear, for example, that the reason why monkeys and babies cannot build towers with cubical bricks is not only because they lack the power to manipulate the bricks, but also because they

¹ T. C. Holmes, "Comprehension of Some Sizes, Shapes, and Positions by Young Children," Washington, D.C. *Child Development*, Volume III, 3, 1932.

² Professor Valentine taught one of his grandchildren the words *on*, *in*, and *under* at two and a half, but the verbal understanding was "precarious." Another grandchild learned to use *on*, *in*, *under*, *over*, and *behind* at two years nine and a half months. These were exceptionally bright children.

have not yet come to realize what is meant by the ideas *straight* and *upright*. The baby will one day understand through play and by learning the words in conversation and using them correctly what is meant by *straight* and *upright*, and then he will learn to build his towers easily enough. Without this kind of language the monkey can never do it anything like so well.

Later on, in their school careers, should children be set to learn the elements of perspective the teacher has again to teach his pupils to see things as adults see them; an understanding of what is meant by certain geometrical terms is essential in order to observe objects accurately and represent them in line or colour. An aptitude for thinking in spatial terms is also dependent on a thorough understanding of geometrical terms. Those persons who have followed a course in theoretical and practical geometry far enough to acquire its fundamental concepts, and who have, moreover, become accustomed to describing spatial arrangements, positions, and directions in precise technical language, will be ready to face and solve the problems of engineering with a surer prospect of success than persons who are possibly of greater general ability, but who have lacked such a training.

5. COLOUR DISCRIMINATION AND COLOUR-NAMING

The analysis of objects in terms of shapes and colours is an activity which appeals to little children. It will not be argued here that the capacity for colour discrimination is dependent upon the development of speech to the same extent as the aptitude for thinking in spatial terms. For a systematic knowledge of colour—in its full range of saturation, tint, and brightness—language is, nevertheless, indispensable, even though we shall always be able to recognize many more colours than we can easily name. Since the introduction of coal-tar dyes and the consequent increase in the range of coloured materials in everyday use we have all learned to recognize an increasing number of shades of the primary colours and their combinations; but not a great deal has been done in the schools to assist children to discriminate and name the possible combinations of tints and hues. All that the Montessori colour-matching apparatus intends children to do, for example, is to arrange colours according to degree of saturation in separate series without learning names for the various shades; here, obviously, is a field where colour discrimination and language study might very easily be linked up, though, of course, it is not suggested that a knowledge of colour names will give a mastery in their use.

As a matter of fact, the child's colour vocabulary is usually picked up anywhere but at school. It is not surprising, therefore, that although 4 per cent. of our male population has some form of colour-blindness, it is only by accident that a teacher will discover that one of his pupils suffers from this deficiency. In infancy the normal child learns to name the primary colours before coming to school and begins to organize his colour world in terms of these names. He uses them in much the same manner as the mariner uses the cardinal points: he speaks, for instance, of light red, red, and dark red as the mariner speaks of north-east, north, and north-west. To give little children more than three shades of a colour, however, and ask for suitable names for them is to discover how faulty for identification purposes their descriptions can be. The boy who acquires a satisfactory colour vocabulary does so, as often as not, through an interest in his paint-box or his stamp catalogue; where girls are above average in the same field it is through the study of dress-fabric catalogues or wild flowers. When we learn, however, that a firm of embroidery-silk manufacturers advertises as many as three hundred different shades of their product it is evident that much remains to be done to enable both schoolchildren and adults to describe colours not actually present accurately enough to ensure identification. Now that the British Colour Council has published its dictionary of colours in which a standard range of two hundred and twenty shades of colour are shown in silk ribbon (half ribbed, half smooth), each numbered, coded, and named, considerable progress should be possible in the acquirement of a good colour vocabulary. No one would expect children (or even adults) to memorize names for hundreds of shades of colour, but a colour dictionary would be a useful reference book in any school.

6. INDIVIDUAL DIFFERENCES AMONG CHILDREN

The importance for the child's progress of the ability to compare objects in respect of their size, shape, colour, texture, weight, movement, etc., and of the ability to speak intelligibly about them, needs no emphasis. To be able to make this kind of comparison means that the child can attend to abstract qualities apart from their context and has begun to construct a framework of reference which he can use in classifying each impression that comes to him, and so subject his experience increasingly to the control of his understanding. It is here that we see the matter-of-fact origin of our conception of truth—*i.e.*, as accuracy in the statement of something that is observed to exist, or to have occurred in the physical world, something that has been directly

experienced through the senses. Truth, as the statement of something not directly experienced but, nevertheless, correctly inferred from observed facts, is not often possible at an early age.

Naturally, the rate of progress of the child in his efforts to view the world in intelligible or orderly perspective depends partly upon his native intelligence and partly upon his cultural background. It is doubtful whether any but the brightest of older children are capable of entertaining ideas which are completely dissociated from their usual concrete settings, and of considering in what other settings they may be employed. This capacity belongs to the mature mind. For this reason, text-book language that abounds in so many unpicturable abstractions is little understood by children. Remembering this, we should be on our guard against the tendency to generalize about children at large from an acquaintance with a few exceptional instances. Not all writers about children have thought it necessary to quote the ages and intelligence quotients of those individuals with whom they have concerned themselves. Piaget,¹ who has done a great deal of valuable pioneer work in the field of infant development, studied children who were probably a little below average in mental capacity. Stern's children,² already referred to, were certainly above average, both in mental capacity and home advantages—the boy of two, for example, asking the name for each of seven objects in succession in order to make sure that the word given him for them all (*chain*) was a general name and not a particular name for two or three of the same kind. Ramussen's children³ were also exceptional. Some of Ruth's flashes of insight into her own character and mental make-up, quoted by Ramussen, showed unusual precocity. At five years four months she said, "I always do the hardest things first, because if one doesn't one gets tired of it in the end." At five years ten months she observed, "So I laughed—I always do when I don't know what to answer." Mrs Isaacs's pupils,⁴ again, were exceptionally intelligent children from cultured homes; what is true of Piaget's children of seven and eight years of age is true of some of her pupils at the age of five, and since a few of these had intelligence quotients of 140 and upwards, we need not be surprised that they should have behaved with as much sense and understanding as some of Piaget's much older children in similar circumstances.

¹ J. Piaget, *Language and Thought of the Child* (London, Kegan Paul, 1926); *The Child's Conception of the World* (London, Kegan Paul, 1929).

² William and Clara Stern, *Die Kindersprache*, Leipzig, Barth, 1907.

³ V. Ramussen, *The Primary School Child* (English translation, Glyndendall, 1929).

⁴ S. Isaacs, *Intellectual Growth in Young Children* (London, Routledge, 1930).

7. GESTURES OR WORDS

Children from homes where language is little used are apt to rely too much on gesture for the expression of their meanings. It should be an early aim of the school, therefore, to free children from too great a dependence upon this kind of gesture. We ought to be on the look out for gestures that spring from poverty of language as distinct from those which are frequently and legitimately added to speech by way of emphasis. We ought frequently to misunderstand deliberately what children mean when they make use of language that could easily be improved upon with a little additional thought. "Let us be clear" must be our motto, and to be clear children must, as often as not, talk themselves into clarity.

To prepare children in the infant school for a life of routine activity nothing could be better than to give them the Montessori insets and allow them to play with the apparatus without instruction. But to prepare them for intelligent work in later years we must teach them to see and to talk about the insets as squares, triangles, circles, and ovals or ellipses, each having a certain colour and other distinguishing marks. Since, as we have already indicated, the first step towards grasping the general properties of squares or circles or triangles is to recognize examples of them among other figures differently coloured or in different material, and to hold fast in the mind their specific shapes and general characteristics in clear form, names are essential.

The suggestion may be hazarded, perhaps, that the efficiency of the instruction in any school may be roughly gauged by the extent to which linguistic expression keeps pace with practical skill and experience. If, for example, we find that if necessary children at the age of four can build the Montessori cubes into a tower which step by step diminishes in cross-section as it increases in height, then the age at which the majority of the children can say with some real approach to intelligibility how the cubes are arranged will afford a clue to the success with which they are being trained. For instance, one might reasonably expect children of six or six and a half to give perhaps some such imperfect but still intelligible answer to a question about the arrangement of the cubes, as "They are put (or placed) on top of one another, starting with the biggest at the bottom and getting smaller and smaller towards the top." All this knits the mind together and prevents the formation of water-tight compartments between language, thought, and practice.¹

¹ Mary S. Fisher found a correlation of 0.86 between children's ability to use things and talk about them. See "Language Patterns of Pre-school Children," in *Journal of Experimental Education*, I (1930), pp. 70-85.

In a good infant school it will certainly be found that the child who is moulding a leaf, rabbit, or tank in plasticine can usually name the substance which he is using, and talk about the leaf, say, he is imitating, or that, engaged in matching words and corresponding pictures, or numbers and corresponding groups of counters, he will be able to explain, not precisely but still intelligibly, what he is doing. Where children cannot talk at all about their individual occupations it is not a complete justification to say that their out-of-school circumstances are all against the development of adequate language, since it is the task of the school to supply the vocabulary necessary for describing what is being done. Besides, when children do not talk about their work and play how can the teacher discover what words they lack or, indeed, what, if anything, they think?

8. INTEREST IN WHAT THINGS ARE AND WHAT CAN BE DONE WITH THEM

Eager as the child may be to learn the names of all the observable things, together with their various properties, that happen to come within the range of his attention, his restless curiosity is unlikely to remain satisfied with the acquirement of names alone. His inquiring mind will soon turn to an interest in what things are made of and what can be done with them. This stage having been reached, nothing seems to escape his vigilant observation. He makes collections of objects and articles that appeal to him—marbles, shells, stamps, picture-cards, beads, etc. He asks a hundred and one questions about the material phenomena of his everyday life: how things in common use—string, glue, bricks, glass, ice-cream—are made; how stars, seeds, flowers, clouds, babies, come into existence; how steam-engines, telephones, radios, work; how it is that iron ships float; why sea-water is salt; where the tap-water comes from; why blotting-paper absorbs ink; and so on, endlessly. Particularly he wants to know how to explain those occurrences that seem to break some general rule which he has begun to formulate for himself, for it is the exception to the rule that is most likely to evoke his persistent "Why?" Thus, things that he lets go of usually fall to the ground, so he asks what keeps the clouds, the sun, the moon, the stars, and aeroplanes from falling in the same manner. Until he feels secure in a world where things happen according to his expectations he questions everything that appears to be inconsequent or fortuitous.¹

¹ See H. R. V. Ball, "Children's Interests and Experience in Relation to Science," in *School Science Review*, March and June 1936.

The child fortunate enough to be given answers to his questions which suggest that the physical world is a place where natural law holds universal sway will usually have his curiosity both satisfied and at the same time directed so that a systematized knowledge of nature will be gradually built up in his mind. His interests will grow with what they feed on. Thus, a small boy known to the writer moved on from an interest in clock-work engines which he was shown how to operate to an interest in battery-operated toy trains the working of which he was also helped to understand. This led to an interest in accumulators which at first grew into an interest in chemistry and was satisfied only when he was in possession of his own small laboratory, and subsequently, after a return to an interest in batteries, to an interest in radio and in the construction of sets. So it is for most of us; all the things that interest us are animated and coloured by our practical relations towards them. They incite us to the mastery of whatever there is to be known about them. They supply the halo of wonder and romance which lifeless information lacks. They beckon us on to distant horizons and arouse in us the continuing energy to reach them. Fortunate, indeed, are the children whose teachers are able to inspire them with such interests and at the same time provide the opportunities for their satisfaction.

9. THE IDEA OF INVARIABLE LAW

We have suggested that truth for very young children can be no more than accuracy in the statement of what is observed to exist or to have occurred in the physical world, of what has been directly experienced through the senses. But it must be clear that what the child observes and experiences in this way may not be so unerringly known for what it is or so easily expressed with accuracy as we have perhaps implied. For example, children must reach a certain level of maturity before they can distinguish with certainty between matter-of-fact reality and elementary illusion. Hence the necessity of leading them to observe and understand as soon as they are able all that they can about the natural behaviour of objects in the physical world.

It is possible to introduce the idea of natural cause and effect successfully to a gifted child at an age as early as four or five, and when this is done there can be no doubt that he will be placed thereby at a great advantage over companions of his who still remain imprisoned in an anthropomorphic universe, where inanimate objects that please him are designated as nice or good, and those that obstruct him are stigmatized as nasty or naughty.

Too frequently one meets the child of seven or eight who has heard nothing but make-believe stories, read nothing but nonsense narratives, and memorized nothing more sensible than verses like the stupid but all too popular ones about the baby clouds that caused a fall of rain by bumping their heads together and crying. The effort to make children prematurely wise is not to be recommended, but, on the other hand, adults do no good in the long run by pretending to the child that their universe is just as infantile as his is believed to be.

Nevertheless, if children are left to themselves the idea of uniformity and of unvarying sequence among phenomena remains for a long time unsuspected. Though the child picks up adult terms which suggest these ideas—*e.g.*, *always* and *never*—he does not at first understand their precise significance. His attention might well be drawn to his first incorrect uses of these words. The idea in "Tommy's always hitting me" might be compared, for example, with the idea of the clock "always ticking" or the stream "always flowing," and the result may be that the child will be enabled to distinguish between *always* and *sometimes* as effectively as Captain Corcoran in *H.M.S. Pinafore* was made to differentiate between *never* and *hardly ever*.

10. EARLY IDEAS OF CAUSE AND EFFECT

Parents and teachers can play a valuable part in bringing about an earlier interest in natural law as shown in cause and effect in the physical world. As early as at the age of five or six children are expected to give reasons for many of their personal acts. "Why did you do this when I told you not to?" demands the adult. The result of this kind of questioning, which no child is likely to escape, is that the word *because* comes into the child's vocabulary as the invariable linguistic response to the questioner's *why*. It is first used, that is to say, to introduce the idea of personal motivation.

In consequence of the frequent use of the word *because* in explanation of personal motives for his actions, it is not surprising that the world around him should come to be viewed as the theatre where everything that happens can, in the same way, be attributed to the activity of persons or, what at this age is the same thing, personalized forces. All our folk-lore and our legends personalize the forces of nature and confirm the tendency. Only those children who have no such stories told them while young and who are not told that doors and tables are naughty, escape this influence. We do not realize how natural it is, as a result of our own attitude, for little children to see the world as

a place where all that happens can be traced to the operation of persons or personalized forces.¹ Our children have the same anthropomorphic view of the world as those primitive peoples who think of thunder as the wrath of the gods, and who fill the skies, the earth, the rivers, and the seas with supernatural beings responsible for whatever occurs to themselves or their neighbours and friends. It is interesting to note that if an adult in a modern civilized community is asked to complete such a sentence as *The clock stopped because . . .* he will usually add something in the way of a purely material cause to account for the failure of the mechanism; whereas, as we might expect, the child under the age of seven will usually produce a non-mechanical reason which implicates some person or other. Thus, he may say, *The clock stopped because Father knocked it down or because a boy threw a stone at it.* Clocks always stop in the world of little children because some one knocks against them, or lets them fall, or strikes them, or takes away the pendulum, or otherwise injures them, and it is only the exceptional child who suggests that a clock has stopped because it needed winding up, or because a spring has snapped, or for some other purely mechanical reason not involving human interference. Again, asked why he thinks, as he frequently does, that the wind is alive, he may say that it must be, as otherwise it would not be able to drive the clouds along, or make such a noise when it blows. But he will personalize natural forces not because he possesses a rare imaginative 'gift' which he will lose, alas, as he grows up; he will think as he does because he has acquired this method of accounting for changes in natural phenomena. For this reason the efforts of the more popular writers of children's stories to foster the child's so-called imaginativeness are misconceived. It should be the aim of teachers to convert this anthropomorphic 'why' interest into a scientific 'how' interest as early as possible.

11. ANIMISTIC PLAY

A most important distinction, of course, which the child learns sooner or later to note in the physical world is that between the living and the non-living. This distinction we shall deal with in greater detail later, but here we may say that it is only when children are beginning to understand clearly the difference

¹ Cf Margaret Mead, *Growing Up in New Guinea* (Penguin Books, 1943) "Where we give the moon sex, and speak of her as 'she,' the Manus language . . . gives no personalizing suggestion. Nor are verbs which apply to persons applied to the moon. The moon 'shines' but it never smiles, hides, marches, flirts, peeps, approves, it never 'looks down sadly' or 'turns away its face'. All the impetus to personalization which our rich allusive language suggests to a child is absent."

between the living and the non-living that they enjoy the pretences of animism, for it is by no means clear that they really like to think of the forms and forces of nature as animate before they realize that it is all make-believe to do so. They enjoy illusion but not delusion; the latter, moreover, is always an obstacle to mental growth. The child who has formed an idea of himself as being something quite different from an animal or a thing revels in the exercise of projecting personality into what is not so human as himself. He is then ready for stories about talking animals, and he needs very little encouragement to act the fables of Æsop and attempt written 'autobiographies' of the most unlikely things. This is the period when the *Water Babies*, *The Jungle Books*, *The Wind in the Willows*, *Alice in Wonderland*, and the Greek myths make their first strong appeal, and the fullest advantage should be taken of the interest so manifested.

From this stage the child moves forward to the stage in which he likes his facts to be invested with a halo of romance, and his stories about the actual world to be enlivened by the addition of an ingredient of magic. At this age when the child is moving up through the junior school, he is likely to fasten with avidity upon information of the 'romance of Nature' type. Set courses of lessons along these lines are out of place, but no school library should be without large numbers of books with such titles as the *Boys' Wonder Book of Railway Engines (Aeroplanes, or Submarines)* or the *Girls' Wonder Book of Nature (or of Animals or of Flowers)*. Particularly in the case of boys this is the 'zoo age,' and lessons about the animals of other lands would be at least as interesting to them as lessons about the children of other lands.

12. PROGRESS IN THE DESCRIPTION OF OBJECTS

The child's ability to make clear to others what he may have observed develops steadily after he has passed through the elementary stage of being able to give the barest verbal support to the act of pointing to that to which he wishes to draw attention. The earliest stage in verbal description may be noted in the tendency of very young children to describe common objects wholly in terms of their everyday uses. The habit of thinking of objects in terms of thing plus attributes has not yet become firmly established. Up to the age of seven or eight they will usually tell a person who questions them that a chair is what you sit on, a knife is what you cut with, a cup is what you drink out of, and so on; and they will be quite satisfied that they have made their meaning clear and unambiguous. It is related of a little girl of three and a half that when she was shown an illus-

tration of a broom she exclaimed, "Why, there's a brush, and no one to sweep up with it." This seems to show what modern psychology would say is obvious enough, that the idea of a world filled with discrete objects is not innate but has to be acquired.

A further stage is reached as soon as children begin to realize that individual objects fall into classes the members of which may differ considerably from one another in certain obvious respects. Dogs differ among themselves, but they resemble cats and horses in being four-footed animals. The recognition of wider and still wider classes is slow. Though children become familiarized early with the idea that cats and dogs are *animals*, that potatoes and cabbages are *vegetables*, that apples and oranges are *fruits*, and daisies and dandelions are *flowers*, they do not readily fall into the habit at the junior school stage of using such relatively common class-names as *liquid*, *instrument*, *metal*, *substance*, and *chemical*. Not that they are ignorant of the meanings of such terms, for even at the age of eight they can state the similarity between two objects that call for the use of some of these words; for example, they will say that a shilling and a penny are alike in being both money or metal. But the common elements implied by the use of the words italicized above stand for nothing yet needed in everyday conversation.

To assist children in organizing their thoughts round general terms of increasingly wide range it is a most useful exercise practice to set them to describe the points of resemblance and difference between familiar things: between a daisy and a dandelion, a nail and a screw, a pen and a pencil, a frog and a toad, etc. The older and brighter children in the junior school may be taught to state what they observe not only orally but also in writing, making use of the semicolon and the adversatives *but* and *whereas* in setting one fact against another, and managing, moreover, such phrases as *the former* and *the latter*, or *than that of* and *than those of*. They will thus learn to refine upon the childish method of describing things in terms wholly of use and make such statements as suggest that they are ready for the genus and species type of definition. So, when asked to inform some one what a particular thing is they will at once realize that they must place it in its class and then state its differentiating features and uses. They will say, or write, for example, *Bakelite is a substance which . . .* or *A speedometer is an instrument which . . .* But in all these exercises the child must be kept in close touch with the things which he is led to talk about. His grasp of essentials and his precision of language are apt to leave him as soon as he loses contact with his everyday physical environment. Children's free composition shows much the same weakness: an

increasing use of terms of increasing generality. These show clearly enough the extent to which the child who employs them has successfully classified and systematized the concrete particulars of his world. An ordered system of knowledge is characterized by its ascending levels of generality. At the top are the abstract ideas that are least involved in the particulars to which they relate. Thus, as Professor Whitehead has said:¹

Classification is a half-way house between the immediate concreteness of the individual thing and the complete abstraction of mathematical notions. The species take account of the specific character, and the genera of the generic character. But in the procedure of relating mathematical notions to the facts of nature, by counting, by measurement, and by geometrical relations, and by types of order, the rational contemplation is lifted from the incomplete abstractions involved in definite species and genera, to the complete abstractions of mathematics. But unless you can progress from classification to mathematics your reasoning cannot take you far.

13. PRACTICE IN VERBAL DEFINITION

An interesting game which intelligent children will enjoy playing is that of identifying objects from their dictionary definitions: for example, they will experience little difficulty if they are asked to name a *juicy, deep-golden, thick-skinned fruit*, or to say what a *frame of metal bars for holding fuel in a fireplace* is called. This game is the more exacting when it is difficult to frame a satisfactory definition without a phrase or two to indicate the use to which the object spoken of is put. Thus, a *light folding framework of flexible ribs of steel, radiating from and sliding up and down a stick, and covered with silk*, is perhaps enough to give bright children the idea of umbrella, but others may need added a phrase like *and carried above the head as a protection against rain* before they can identify the object so described. Most children will recognize a *piece of household furniture consisting of a flat surface supported on legs* as the description of a table without further specification, but a *short stiff pointed piece of wire with flattened head* is not enough as a rule to make for its speedy recognition as the description of a *pin*.

This kind of exercise can be made to lead to a great deal of stimulating and entertaining discussion. How a thing is to be defined so as to exclude meanings which are not intended, but which may, nevertheless, be legitimately included is a problem most intelligent children will feel to be well worth tackling. For example, a *piece of household furniture consisting of a flat surface*

¹ *Science and the Modern World* (Cambridge University Press, 1925).

supported on legs is by no means a logic-tight definition for the word *table*, while the *orange* is by no means the only fruit which is *juicy, deep-golden, and thick-skinned*! It is, therefore, at this stage that instruction in the art of Aristotelean definition by genus and difference (*per genus et differentiam*) is clearly opportune. The practice of definition, indeed, should be a regular feature in the education of older children. They can be trained first to find the proximate genus—i.e., to look for things similar to those which the word to be defined names—and then for the differences which mark it off from those it resembles. Thus, in order to define what is meant by a watch they would first think of as many things as they could that serve the same purpose—e.g., clocks and sundials—and of the characteristic they have in common—e.g., they are timepieces—and then of the feature which distinguishes a watch from all other timepieces, viz., that it can be carried about in the pocket. It would then follow that a watch is a timepiece (or a mechanism for measuring time) which is small enough to be carried about in a pocket.¹

14. LANGUAGE AND OBSERVATION

So far we have been dealing in this chapter with the child's power of using language for the description of the world of common observation. The boy or girl who has gained this power, and arrived at, say, the age of eleven, usually becomes engrossed in the practical possibilities of his knowledge. His toys and possessions take on a fresh aspect; they are no longer regarded as mere playthings, but they become valued, because they are interesting in their construction; it is not their romantic or picturesque appearance that excites him, but the scientific principles exemplified in their mode of operation. He begins to realize how much there is in the physical world which is not revealed to those who are ignorant of nature's secret ways; he realizes that good teachers and good books have the power to

¹ There are, of course, limits to this kind of thing and they are soon reached when we are dealing with human affairs. For example, W P Ker once said, "In spite of Socrates and his logic we may venture to say in answer to the question, 'What is a ballad?'—'A ballad is "The Milldams of Binnorie" and "Sir Patrick Spens" and things of that sort'." (*Proceedings of the British Academy*, Vol IV. (Oxford, Humphrey Milford). Cf. also Whitehead "Civilization is one of those general notions that are very difficult to define. We pronounce upon particular instances. We can say that *this* is civilized or *that* is savage. Yet somehow the general notion is elusive. Thus we proceed by examples" (*Adventures of Ideas*, p 261). It should also be remembered that it is futile to expect children to be able to visualize unfamiliar things from descriptive definitions of them. The teacher who confuses meaning with definitions may merely teach empty words. Meaning comes from experience. "No one from the sight of a horse would be able to anticipate its zoological definition, nor from a knowledge of its definition to draw such a picture as would direct another to the living specimen" (J. H. Newman, *The Grammar of Assent*).

illuminate natural phenomena in a manner unsuspected by the untutored and the illiterate. He is ready for science proper. Too often, however, this means that he is confronted with the necessity for memorizing generalizations which convey to his mind little but what is vague and uninspiring.

In many subjects, however, and particularly in non-scientific subjects, the terminology employed does not describe as well as name, and in consequence its acquirement is no guarantee that a mastery of the subject-matter has been achieved. Difficulties naturally arise when it is impossible to represent what is described in a text-book by means of a picture or diagram or when nothing in the way of an illustrative image can be evoked in the mind of the reader. It is easy, for example, to explain what is meant by *bimetallism* to an adult with the necessary background and experience to supply a basis for comprehension, but in the case of children we may find that after the clearest of explanations they have gained nothing except a little parrot-knowledge which they will be able to repeat sufficiently well for examination purposes and be none the wiser for the performance. Thus, they may learn to speak of scabies as a parasitic disease, or of pyorrhoecia in terms of gingivitis, without being able to recognize either in the flesh. It is to be feared that there is a great deal of this kind of pseudo-knowledge about which is never detected for what it is by those to whom it is addressed. It is this kind of knowledge by description which we referred to earlier as likely to be without any sure foundation unless related to the basic knowledge that comes to us through direct acquaintance with the stubborn facts of life.

15. THE INTERPRETIVE VALUE OF LANGUAGE

It goes without saying that a good deal of the terminology to which children are first introduced through school instruction may be employed to great effect by those who thoroughly grasp its significance, particularly if it has been associated with practical interests. A boy known to the present writer was asked to deal with a clock that had shown a disinclination to work after a change of position. A little close observation followed by a little manipulation was sufficient to set it going again. Questioned about what he had done, the boy said that he had thought the problem out in terms of two ideas, *dead-level* and *parallel*, which had occurred to him during his observation. The base of the clock had not been *dead-level*, while the pendulum had not been swinging in a plane *parallel* to the wheels and other works. In short, the boy had made intelligent use of two simple but fundamentally important concepts which the majority of us acquire

not by generalization from the facts of experience but through linguistic instruction, their full significance coming home to us through the cumulative results of an acquaintance with particular instances of them. It would not be difficult to show that the progress of science has been largely due to research into the significance of the abstractions first isolated and named in such words as *mass*, *volume*, *gravitation*, *pressure*, etc. And among men of science the preference for a particular perspective of facts is presupposed by their frequent use of certain terms which one may readily discover in their writings. "One values most highly *predictability*, another *picturableness*, a third *intelligibility*, a fourth *permanence*, a fifth *harmony*, *order*, or *system*, a sixth, like most metaphysicians, attaches the highest value to *unity*, another to *simplicity*, *coherence*, or *finality*; yet another to *measurableness*, and so on."¹

It may be added that the craftsman and the artist do but learn to apply, though with consummate ingenuity and skill, the less easily acquired concepts with which their training is planned to furnish them. What a Chippendale or a Sheraton, say, does is to approach the problem of chair construction with such general ideas in mind as are expressed by the words *strength*, *durability*, *elegance*, *balance*, *comfort*, etc. These ideas, in so far as they have reference to chairs and nothing else, may perhaps be represented in the mind by pictorial images and by them alone. But in so far as they include references to no other articles than chairs, mental activity about chair design is not likely to be very fertile, and the wider associations of these words, enriched by reading and by contemplation of natural and traditional forms of beauty, are best held together in the mind by linguistic ties. Words, that is to say, may screen reality from us, but they may equally well enable us to see reality the more clearly and deal with it more effectively. The language which has been devised for enabling us to deal with the measurable aspects of phenomena is a striking example of the truth that words may give us the ability to control the observable world in a manner quite impossible to those whose development has been entirely unschooled.

16. THE IDEA OF NUMBER

We have already emphasized the importance of introducing the child to number as such through language. The comparison of things in the child's environment as *bigger* or *smaller*, *longer* or *shorter*, *heavier* or *lighter*, *farther* or *nearer*, *one*, *more*, or *a lot*, etc., is as essential to the discovery of the quantitative relations in given situations as the acquirement of the art of counting.

¹ William McDougall, *The Frontiers of Psychology* (London, Nisbet, 1936).

The idea that things have size and weight is but a preliminary to the important step towards the idea of size and weight as *measurable*. The recognition of degrees of difference in size among compared groups is an extension of this idea. As early as at the end of the second (or beginning of the third) year children begin to recognize groups of two, three, and four objects and to know at once that the group itself is a smaller one when one of them has been removed. But little children, like certain of the higher animals and many primitive races, do not get very far beyond the recognition of groups of four or five if they lack the power to count. It is this essentially linguistic art that is the basis of all higher development in the application of number to the problems of life. From lightning calculators of the *idiot savant* variety at one end of the human scale to the mathematicians of the Royal Society at the other, all begin their further number development with the words they use in simple counting. At an early age the idea of counting fuses with the idea of group-size, and this leads gradually to the power of analysing larger and larger groups for the purpose of recognition and control. To be able, for example, to see at a glance that a page of print probably consists of some 300, 350, or 400 words is only possible to those who at one time or other have actually counted the words on pages of the same size, and there is no way of doing this without using language.

The impossibility of a science of mathematics without linguistic symbols of some kind, however, will be clear to every one. We need not enlarge, therefore, on the fact that the mathematician has devised a highly technical language of his own for the exploration of the external world. Thus, mathematics may be regarded as a refinement of ordinary language rather than as something quite different. It takes us into the realm of the completely abstract; ordinary language halts halfway, with one foot, as it were, in the abstract and one foot still in the concrete and the particular. Rignano¹ makes use of an interesting illustration.

An old woman of the hills of Fauglia, near Pisa, where I used to stay, owed me twelve francs that had been given her the previous day to hand to me. I owed her seven francs for expenses she had incurred for me in the morning. "So you only owe me five francs," I remarked. But she was not very convinced. She began to count out twelve franc pieces. "There are your twelve francs," she said to me; "now give me seven francs." I counted her out seven francs, and it was only then that she was convinced that our accounts were completely in order.

¹ *Psychology of Reasoning* (London, Kegan Paul, 1923).

Not too far removed from the old woman of Fauglia are the countless shop assistants who give change by saying aloud the amount which has been spent by a customer and then proceeding to put down coins on the counter one by one and adding their value until the amount tendered is reached. The mental subtraction of the cost from the amount tendered is a feat of abstraction, if not beyond them, at least one which they feel very unsafe about.

Most of us have got past the stage in which the old woman of Fauglia was stuck fast, but how much farther there is for us to go before we can hope to achieve the imaginative manipulation of what is not actually accessible to a more active physical manipulation may be shown by a further quotation. This is used in another connexion by MacCurdy.¹ We shall understand, in following this illustration, how unlikely it is that any similarity between the two things dealt with would have occurred in the absence of a language to connect them. Professor G. I. Taylor, we read,

was anxious to learn about the distribution of stresses in a steel bar when it is twisted. For this he had an equation, but it was impossible to solve it using only mathematical symbols; some actual measurements were required. Obviously he could not measure anything within the steel bar without disturbing its structure. It happens, however, that the distortion of air under pressure of a soap-film stretched over a hole whose contour is the same as the cross-section of the bar could be expressed in the same equation as that for the distribution of the strains within the bar. Now this soap-bubble is accessible to measurement. So he measured the relative heights of such a bubble at various points, and from this he was able to tell what the strain would be at any point within the steel bar. Such a procedure flies right in the face of common sense. . . . To the mathematician, however, the physical substances which give material representation of an equation are quite irrelevant.

17. THE IDEA OF TIME

The world of space and the world of time are not two worlds but one, though growing children only gradually come to distinguish the time element in what they see going on around them. Space and time are, indeed, abstractions from the world of direct observation. All that we directly perceive is that certain things, processes, or events *endure* and that certain rhythmical effects frequently occur in connexion with their appearance. Professor Stout begins the chapter on "Temporal Perception" in his

¹ J. T. MacCurdy, *Common Principles in Psychology and Physiology* (Cambridge University Press, 1928).

Manual of Psychology by saying that the apprehension of temporal relations, as they exist for human consciousness, is an extremely complex product of mental development. Such attempts, therefore, as have been made to analyse our ideas of time and lay bare its constituent elements and the main lines which their development follows will always interest those occupied in the education of children. At the moment the most satisfactory way of exploring this field is the linguistic method of studying what infants and young children say from their earliest years.

An acquaintance with the writings of Binet,¹ of Decroly and Degand,² and of Piaget³ of the French School of psychologists, and of Stern⁴ of the German school, and also with the account of some experimental work by Oakden and Sturt⁵ and by Valentine⁶ in our country should enable us to map out in outline the territory which has already been worked over and to view something of the prospect that lies unexplored beyond.

18. DIFFICULTIES IN STUDYING CHILDREN'S IDEAS OF TIME

In considering the child's knowledge of time as it is expressed in his conversation we should do well to distinguish, if we can, between his untutored apprehensions and the implications of the language descriptive of time-relations which he has learned from his elders; the mere use of words, however intelligent and facile it may be, is no evidence of an appreciation of their meaning. It is only too well known that children pick up large numbers of words of all kinds before they realize their precise significance. But where time-phenomena are concerned many children find it difficult through lack of instruction to express such time-relations as they may have become aware of. Thus, to arrange events which can only be described accurately with the help of such words as *permanently* and *temporarily*, *occasionally* and *periodically*, or *regularly* and *intermittently* and to ask for an account of them is by no means to call out those words or any satisfactory equivalents. On the other hand it must be realized that the difficulties experienced by most children in turning direct speech into reported speech are usually due not so much to an incomplete understanding of the context as to an unfamiliarity with certain

¹ A. Binet, *Mentally Defective Children*, translated by W. B. Drummond (London, Arnold, 1914).

² O. Decroly et J. Degand, "Observations relatives au developpement de la notion du temps chez une petite fille," *Archives de Psychologie*, XII, 113-161.

³ J. Piaget, *The Child's Conception of the World* (London, Kegan Paul, 1929).

⁴ W. Stern, *The Psychology of Early Childhood* (London, Allen and Unwin, 1927).

⁵ E. C. Oakden and M. Sturt, "The Development of the Knowledge of Time in Children," *British Journal of Psychology*, XII, Pt. 4, pp. 309-336.

⁶ C. W. Valentine, *The Psychology of Early Childhood* (London, Methuen, 1942).

subtleties of time-sequencce.¹ It can be said, indeed, that one of the advantages of learning a foreign language may be that thereby children become accustomed to dealing with those tenses which they otherwise would not employ—e.g., the past perfect and the future-perfect. Thus, we shall find the child's language about time-phenomena sometimes anticipating in its development, and sometimes lagging behind, the experiences which it exists to express. Rarely, perhaps, should we expect appreciation and expression to keep perfect step.

It is worthy of remark that the majority, perhaps, of the children whose time sense has been studied in detail have been exceptional children; their vocabularies have been compounded of elements reflecting both their own experience and the experience of those whom they have heard talk. It is not easy to get a clear view of the progress of ordinary children in understanding time-phenomena from the facts thus adduced. Any attempt to summarize what has so far been elucidated requires to be checked against fresh findings in different circumstances.

19. PRESENT, PAST, AND FUTURE

Very early in life the infant notes the fact of transience. He discovers that interesting objects and persons have a way of coming and going, of disappearing and reappearing, and this gives rise to a vague sense of change as such. It is unlikely that his sense of change is at first differentiated from his sense of *now*, but a growing familiarity with the objects and the persons who come and go and a growing familiarity with words and phrases which adults have a trick of associating with these changes help in time to narrow down the *now* by isolating those fringes of it which Stout calls the *no more* and the *not yet*. It is not always realized how useful it is to the infant to have such vague apprehensions as he must often find subjected to definite and precise linguistic conditioning. The nurse or mother who divines his states of mind and supplies such words and phrases to mark them by as *Daddy-going*, *milk-all-gone*, *teddy-lost*, or *milk-*

¹ We have already said that good narrative technique depends on a mastery of tense forms. The child must learn to see events in relation to one another (as successive, coextensive, overlapping, or inclusive) in a larger temporal frame than the events themselves provide. Language helps him to construct such a frame. The expanded tenses of our own language, for example, can play a useful part in this way. In Old English they were practically non-existent. They came into existence in unintelligent translation of the Latin tenses expressed by two words (*auxiliary* and *participle*). In Middle English few examples occur, there being no more than some fourteen in Chaucer. They began to appear freely in the eighteenth century. "In the modern period the use of the expanded tenses has been continually gaining ground, and this may be considered one of the points in which the language has gained in nice distinctions and logical precision" (O Jespersen).

soon, teddy-presently, daddy-coming does a great deal to fix the attention of the infant upon evanescent perceptions that may otherwise take a long time to establish themselves as consciously noticed features of experience. It is probable that a great deal of the superiority shown by children from good homes over those from poor homes is due to early and effective linguistic conditioning of this kind. Even when words are not fully understood they help children to direct their attention where it would not so soon reach out.

The young children whose experiences are described by Stern, Decroly, and Valentine gave evidence of understanding the difference between *past* and *present* and between *present* and *future* early in their third year. Thus, on one occasion Decroly's Suzanne, who wanted immediately something which was being withheld, said impatiently, "No, not in a minute; at once," while Hilde, Stern's little daughter, at the age of three put off the pleasure of eating with the words, "Not yet the cakes."

It is interesting to find that Stern and Decroly agree in saying that the infant learns to differentiate the *future* from the *present* sooner than the *past* from the *present*, and they explain this by the fact that our attention is normally set not towards the past but towards the future (*i.e.*, on what is about to happen); habitual reminiscence comes with old age. Expectancy plays so large a part in the life of the infant, says Stern, that the idea of future time is naturally apprehended much sooner than that of past time. Valentine, however, says that the references of his grandchildren to the present (in their third year) were immediately followed by references to future *and* past.

20. 'TO-DAY,' 'YESTERDAY,' AND 'TO-MORROW'

The use of the words *yesterday* and *to-morrow* by adults to the child usually precede the formation of any clear ideas on his part of the more remote aspects of past and future.

Hilde and Suzanne both began to use the words corresponding to our *to-morrow*, *to-day*, and *yesterday* in their fourth year, but obviously as a result of imitation and nothing else at first, because they used the words tentatively and as often as not inaccurately. Thus, Hilde would talk about wanting to go for a walk yesterday and ask, "Is it now to-day?" It was not until their fifth year that these two children got their ideas of *yesterday*, *to-day*, and *to-morrow* quite clear. But at the age of five and a half Hilde was able to show her mastery of this side of her linguistic equipment by announcing that "the day after to-morrow will to-morrow be the day after to-day." Valentine's grandchild, B, at 2 years

9½ months, mentioned something which had happened "not last night, 'nother night." Y, at 2 years 11 months, spoke of *when* she would be going to Cromer, but she could not explain at 4 years 2½ months what *yesterday* meant. Vagueness and ambiguities continue, says Valentine, beyond the third year.

It will be remembered that the first reference to time in the Binet-Simon tests is to be found in the original series for six-year-olds, who are expected to be able to say whether it is *morning* or *afternoon* when they are being questioned. This represents the next important advance in the child's apprehension of time-relations, but, having arrived at this point, he will still find difficulty in understanding what is meant by *minutes* or *hours* or *weeks* or *months*. It is not until he reaches the age of nine that Binet expects him to be able to name the day of the week, the day's numerical order in the month, the name of the month, and the year. It is at this age that children have definitely passed out of the period in which all their past days are yesterdays, and all their days to come are to-morrows.

21. PERSONAL TIME AND UNIVERSAL TIME

Observation of individual children can be supplemented by experimental work with larger numbers at the ages to which we have now arrived. Typical of such work is that of Oakden and Sturt,¹ who conducted a series of experiments designed to reveal the steps by which children learned to understand different types of time-relation. They were able to conclude that the types of time to which we learn to adapt ourselves may be classified (in the order in which they are successively apprehended) as (1) *personal* time; (2) *social* time; and (3) *universal* time. Personal time is the sort of time that has no more than a personal significance, being centred in the difference between past and present, present and future, and associated with the disappearance or the reappearance of familiar objects and persons in the immediate environment. Social time centres round the daily routine in the home, the street, and the school, and is associated with such events as breakfast, morning school, dinner, afternoon school, tea-time, and bedtime. Universal time centres round the calendar, a linguistic invention, and is fixed by dates—*e.g.*, 55 B.C. or Christmas Day 1940.

Some interesting points may be mentioned in connexion with these experiments. The first is that English children were found to be able to manage the Binet 'time' tests, already mentioned, at an age at least a year earlier than that given in the standardized

¹ See M. Sturt, *The Psychology of Time* (London, Kegan Paul, 1926).

series. The second point is that little children usually connect the seasons with what is emotionally associated with them rather than with dates, and in such a manner that whenever these associated ideas are present they infer the presence of the appropriate season. Thus, on a warm March day many of the children below the age of seven said they thought the season was summer. Children of this age, too, frequently said that they thought it might not be the same day in another town, though here the very fact of a question being asked on such a subject no doubt suggested the cue for this answer. Dates from history could be arranged chronologically by two-thirds of the children by the age of nine.

One of the tasks set to a large number of the children tested was to write a letter making an appointment with a friend. Not all the children were expected to name both a place and a time for the appointment, but generally speaking there were fewer omissions of place than of time. Taking the answers for the children of the ages from eight to ten together and those of the children of the ages twelve to fourteen together we find that just over 50 per cent. at the former ages and nearly two-thirds at the latter ages remembered to fix a time for the appointment they were making.

Oakden and Sturt found all problems of duration—*i.e.*, of estimating the length of intervals—much too difficult for children of school age to deal with satisfactorily.

22. TWO TESTS OF TIME APPRECIATION

As a method of indirectly exploring the further development of the time sense in children the present writer made use of a vocabulary test in which they had to supply the missing word in each of sixty sentences, four words being supplied in each instance for them to choose among. The test provided an opportunity for showing an exact knowledge of the meaning of such words as *continuous*, *punctual*, *contemporary*, *premature*, *urgent*, *protracted*, *retard*, *accelerate*, etc.¹ As may, perhaps, be expected, it was unusual for children under the age of thirteen to score considerably more than half marks. The norms, to the nearest whole number, for the ages from ten to fourteen were found to be as follows:

AGE	10-11	11-12	12-13	13-14	14-15	NUMBER POSSIBLE
Norms	15	22	27	32	36	60

¹ See Appendices, p. 320.

A second test employed was referred to in Chapter V.¹ It consisted of twenty questions, and in answering them children had to say which of four short descriptions was the best account of an action (in two or more parts) performed before them. The twenty actions were chosen with a view to discovering how far the children tested could distinguish between the various linguistic constructions which, precisely employed, enable us to distinguish between simultaneity and succession, between the overlapping of events and the inclusion of one event within the time-period of another, between the continuous and the intermittent, and so on. An analysis of the answers showed that many of the linguistic constructions which have been devised to describe relations between events in time are learned at first without any clear ideas as to their exact meaning. They are merely regarded as improvements upon the bald method of stringing events together by means of a succession of *ands* and *and so's*.

Insufficient data exist for supplying norms of performance for this test, but it may be said that when correlated with the time-relations vocabulary test referred to above the coefficient obtained was $r = 0.62 \pm 0.03$. A third test of a slighter nature showed that children do not as a rule appreciate the need of some of the compound tenses required for the expression of time—*e.g.*, the past perfect and the future perfect. A minority of children under eleven choose *had had* instead of *had* or choose *will have had* for *will have* where the former tenses are required to complete sentences. The past perfect and the future perfect are usually picked up in reading: indeed, where children of school age are concerned they remain purely literary forms

¹ See Appendices, p 316

CHAPTER VII

THE CHILD'S CONCEPTION OF PERSONALITY AND CHARACTER

I. A PREFATORY NOTE ON TERMINOLOGY

The words 'personality' and 'character' are frequently treated as synonyms, any difference of meaning felt to exist between them being that 'character' is preferred when ethical or volitional qualities need emphasis. Both words have had a long history during the course of which they have been employed in many different senses. It is likely that Aristotle gave 'character' its original sense of 'common human type' which it long retained; certainly his pupil and successor, Theophrastus, fixed this sense through his *Characters*,¹ which portrayed in words thirty common types of human being, such as the penurious man, the arrogant man, the superstitious man, the garrulous man, and so on. The theatre has preserved the meaning in its own stage 'characters'. These have usually been common types, distinguished from one another by means of make-up, style of clothes, tricks of behaviour, and mode of speech; their 'signatures' have as a rule been written all over them. In this way we have been able to recognize them at once as unmistakable (even if overdrawn) heroes or villains, simpletons or wisaeres, knaves or plain honest men, jesters or down-and-outs. In the best modern drama, of course, a closer resemblance to genuine individuality is demanded and usually provided.

The word 'personality' comes to us from the Latin *persona*, through the medieval Latin *personalitas*. *Persona* was the Roman name for the mask through which the actor spoke his lines in the Greek drama. The word was also used later for the external appearance of the actor as well as for the part he played. Various other meanings—ecclesiastical, legal, and philosophical—have been attached to the word from time to time, but to-day we tend to think of the personality as no longer the mask but as the person behind the mask, and as revealed not in superficial external behaviour but in the expression of the genuine inner self.

If this is so we ought in speaking of a man of character to have in mind the sort of quality he possesses which puts him in an easily recognized class with others whom he resembles, while in speaking of a man of personality we ought to mean the essential and distinctive quality of a person, his uniqueness which places him apart from others in a class by himself. In this chapter we

¹ See R. C. Jebb, *The Characters of Theophrastus* (London, Macmillan, 1909).

shall not always be able to maintain such a distinction, yet it will help us in outlining the development of the child in his understanding of personality and character as it is shown by the books he likes to read and by the language he employs in speaking of the persons with whom he comes into contact.

2. SELF AND OTHERS

In addition to having to learn to live successfully in the physical world of objects and events, the child has to learn to live in the world of persons. Here, while language assists him greatly, as we shall show, it is apt at first to confuse him. The differences between the personal pronouns, for example, may seem simple enough to an adult, but they usually perplex the infant who in the course of conversation finds that *you* and *your* on the one hand, and *I*, *me*, and *my* on the other, may be employed both with reference to himself and to others. It is not before the age of two, as a rule, or sometimes three, that these pronouns can be correctly used by the majority of children. Even at a later age little children may continue to speak of themselves by their Christian names in order to avoid having to select the correct pronoun from among those which they know well enough how to interpret when used by others. Another difficulty experienced by little children is that of learning to describe themselves as they appear to others and not as they would appear to themselves in a mirror, so that when a parent or teacher says, "Hold your right hand up," they can at once put up their right hand and not, on the mirror principle, their left.

These difficulties having been overcome, however, the child is able to attend more freely to some of the outstanding differences that exist among the persons in his everyday environment. For a long time it is exceptional, indeed, for more than just a few shades and qualities of personality and character to be noted and appreciated by little children. It is for this reason that the heroes and heroines of the stories which appeal to them are usually so featureless. Goldilocks and Red Riding Hood, for example, are little more than names, and the pleasure which children derive from hearing about them is largely that which they realize by identifying themselves with them in their adventures, by anticipating their perils and disappointments, and by finding to their relief and delight that all ends happily.

Any grading of fairy-tales which accords with children's preferences shows a steady development from year to year in the complexity of the plot, in the lifelikeness of the characters, and in the motives which actuate them. The folk in Hans

Andersen, for example, are more sophisticated than those in Grimm, and this is the reason why the former appeal more strongly to junior than to infant children. In stories for older children subtle characterization is usually out of place, and what is attempted must be interpreted through actions vividly portrayed rather than baldly described.

It may be remarked in passing that a similar development may be traced through the centuries in the literature of adults. The persons in a Bible story or in Herodotus are usually few in number, and they act from relatively simple motives. The Fables of Æsop are similarly simple both in form and substance. The miracle plays of the Middle Ages had no more than from six to ten characters, who frequently took 'copy-book' parts. In the later plays of Shakespeare, which were written for a much more knowledgeable audience, we may find anything from a dozen to over thirty speaking parts and a correspondingly far greater range of human feeling portrayed. In a modern novel or drama (like *War and Peace* or *The Dynasts*) the characters may be so many and so various as to form a miniature world in themselves. An intermediate stage between the simplest tales and such mature works is represented in the kind of romance (for example, *The Odyssey*) in which a single person undergoes a series of adventures entailing a succession of varied contacts, the number of different persons in the field, however, at any one time being very few indeed.

3. THE CHILD'S EARLIEST CLASSIFICATION OF PERSONS

The naivety of the character-drawing which is to be met with in the books little children like to read or hear read is also to be found reflected in the language which they use when they talk about the people they themselves come into contact with. Up to the age of six and a half or seven, children usually limit their description of strangers to outstanding visible features. When a child has said that a man is *tall* or *short*, *pale* or *fresh* (in complexion), *fat* or *thin*, *strong* or *weak*, and *old* or *young*, he is usually brought to a stand, unless some remarkable oddity of gait or of gesture, of demeanour or of dress, fixes attention and provokes comment. Not that these simple marks are unimportant. If, however, the child goes beyond what he sees and tries to give an impression of the character of the person he is describing he is content, as a rule, to divide people into two classes—those that please him and those that don't. He speaks of the former as *kind* or *good* or, more generally, *nice*, and of the latter as *unkind* or *bad* or *horrid*. The traditional history and

scripture lessons which divided kings and statesmen into the *bad* and the *good* have helped, of course, to confirm this tendency.

It is equally the mark of immature adults to employ the fewest categories for the classification of those with whom they come into contact. This is particularly evident in their religion and their politics; thus, they tend to simplify the cosmic process into a struggle between God and the devil, or they may be ready to believe that, whereas their party or their Church or their tribe is divinely guided, the motives of their opponents and enemies are wholly Satanic.

Neither is the black-and-white type of classification entirely unknown among psychologists and philosophers; we have all heard of clean-cut distinctions of people into extroverts and introverts, into schizoids and cycloids, into masochists and sadists, tough-minded and tender-minded, into practical and academic, Platonists or Aristotelians, and so on. And have we not discussed almost *ad nauseam* the distinctions of matter and mind, objective and subjective, of habit memory and pure memory, of theory and practice, and of determination and free will? We do not always remember that it is not Nature but we ourselves who have made these distinctions.

It may possibly be urged that immature adults and young children are able to recognize many more qualities of personality and character than they can name. But, in any case, their increasing knowledge of a wider range of names than of recognized qualities must suggest to them sooner or later that qualities exist corresponding to the names they have learned. Progress, however, is slower than many would be prepared to admit. Nevertheless, the process of *desynonymization* is a natural one to all children, unless they have had the misfortune to be taught that synonyms exist merely to enable authors to add grace to their writing by means of the trick of elegant variation. Yet to ask a child of seven who has used the words *generous* and *kind* what the difference between them is, is usually to be told, and, I think, told honestly, if mistakenly, that there is none.

4. ACQUIRING A DESCRIPTIVE TERMINOLOGY

It is significant that such words in the young child's vocabulary as indicate something less suggestive of immaturity than simple dichotomous classification, and are, therefore, more closely descriptive of familiar personal qualities, consist as often as not of the slang terms picked up in the streets and playgrounds and learned by direct acquaintance with what they name—for example, *catty*, *bossy*, *windy*, *nosey*, *skinny*, *cocky*, etc. They are

certainly learned at a time when their standard English equivalents, or near-equivalents, are still unknown. Here we see how descriptive language is most effectively learned by little children—*viz.*, through hearing something vividly named while it is being clearly experienced. This is what we have already called ostensive definition. Too much of our language teaching ignores this kind of definition, emphasizing, instead, as it does, the importance of dictionary meanings of the terms met with during lessons.

In addition to (a) ostensive definition and (b) verbal explanation through dictionary definition, there is a third way. This we frequently follow when asked by children for the meaning of words descriptive of personal characteristics which we cannot illustrate by ostensive reference to the characteristics themselves or successfully explain to them in words, because they may be insufficiently mature to grasp the full significance of a verbal description. They may, for example, ask what we mean by saying that some one, whom they may regard with favour, is vulgar, obsequious, officious, or unprincipled. What we then do is to illustrate the meaning of such words by simple stories of persons exemplifying the qualities thus named in specific situations: in short, we give children a series of examples of vulgar, obsequious, officious, or unprincipled behaviour and leave it to them to form their own ideas of what these connote when considered together. Naturally, the ideas formed will be either extremely vague or unduly specific so long as they cannot be put into clear verbal form.

Every young child who reads widely, goes frequently to the cinema, and listens in regularly to the radio, must inevitably acquire a rich stock of words and phrases descriptive of personality and character. Unless, however, he is able to build up from direct experience an equally rich background of knowledge to which he can satisfactorily relate the language thus acquired, he will become nothing better than a mere verbalist. If, on the other hand, he is trained to be on the look-out for opportunities of suitably matching descriptive terminology with experience steady progress of an all-round kind may confidently be expected. Language must be ready, that is, to cap experience as it occurs, and when experience occurs without language the child must be able to call up suitable verbal images. Urban children, for example, taken for their first ride into the country have scores of names which they will be anxious to apply to their proper objects. "Is that a cow—a mountain—a waterfall—a forest?" they will keep asking. But all too often the experience precedes the name. It must often happen, for example, even to adults, to

find with pleasure that a discerning critic has made use of a telling word or phrase to hit off admirably some teasing quality of a theatre, radio, or cinema performance at which they have been present without being able to say exactly where its appeal really lay. The brightest children alone are likely, however, to appreciate this sort of situation.

5. FROM SEVEN TO ELEVEN

During the years from seven onward intelligent children begin to make marked progress in mastering the language needed for describing the more striking qualities of persons they meet. As we have already mentioned, they learn at first to classify others into the *kind* or the *nice* or the *good* on the one hand, and their opposites on the other. As they grow older they gradually become able to differentiate between the various shades of the *nice* and the *kind* and the *good* and between those of their opposites. An essential to this progress, of course, is experience of life in a diversified group, such as a large family or some other free community, since these will present a wider range of reactions to the ordinary situations of everyday living than can be known in less free and less varied groups. Without variety of age, interest, and disposition, group life is unlikely to be fully educative.

An idea of the sort of progress which children normally make during their junior school careers may be illustrated by the answers given to a question set by the present writer to some hundreds of children between the ages of seven and eleven. They were asked to fill in the blanks in the following sentences with suitable words:

"If I were to marry a prince," said the princess, "I should expect him to be (1) . . . , (2) . . . , and (3)"

What would you have said for (1) . . . , (2) . . . , and (3) . . . ?

The answers showed that the vague term *nice*, which was all too common at seven, became gradually specified, with increased age, as *well-mannered*, *polite*, *courteous*, *agreeable*, etc.; that *good* became more narrowly defined as *honest*, *truthful*, *unselfish*, *steadfast*, etc.; and that *kind* became *generous*, *sympathetic*, *helpful*, *good-natured*, etc.

To be able to use such words as these is not, of course, necessarily to possess a clear idea of their precise meanings. Their use, however, does suggest that a definite enlargement of the understanding is taking place, and that the time is ripe for the teacher to play a further part in the child's social development.

Through the discussion of the qualities disclosed in the use of each fresh term that comes to be employed, a great deal of social as well as intellectual enlightenment can be ensured. As already emphasized, the child should be trained to ask himself in becoming aware of a fresh word or phrase which has appealed to him, "What should I have said (or what have I been in the habit of saying) instead?" Then he should go on to inquire what exactly is the difference in meaning between the old word and the new one. Certainly it would seem that those children who remain unable, after such training, to advance beyond the realm of the *nice*, the *kind*, and the *good* must be considered to be maturing all too slowly.

6. KNOWLEDGE BY ACQUAINTANCE AND KNOWLEDGE BY DESCRIPTION

To set children to write about other children whom they know well is to find abundant evidence of their unreadiness below the age of thirteen for the study of the motives and purposes of adults whose minds are so much more mature and complex. The categories employed by the average child below the age of thirteen in his description of his acquaintances will depend to a large extent, of course, upon the nature of his environment. He will tend to think largely in terms of those qualities which he sees to be desirable but not general in the community life he shares. Thus, in a rather poor social group, children make frequent reference to such qualities, and their opposites, as cleanliness, tidiness, good manners, obedience, and industry. In an environment where most of the good qualities mentioned can be taken for granted there is reference instead to honesty, truthfulness, reliability, and trustworthiness, and their opposites. But in all groups cheerfulness, good temper, generosity, kindness, and helpfulness are naturally and widely valued. We may, perhaps, mention in passing that boys appear to have greater use than girls for the quality of being a good sport, and also to find it often necessary to mention shyness and bashfulness.

In so far as the great characters of history and literature can be faithfully represented in the terms set out above, they can no doubt be made to come alive for children and exercise a strong appeal to their interests. But we may observe that much which is typical of the conduct of the great must lie beyond the descriptive limits imposed by such a vocabulary. If reduced to explaining what we mean by ambition, honour, imagination, resolution, pride, piety, and so forth, in such familiar words as can be understood by the immature child we shall be unlikely

to convey any real understanding of what constitutes the element of outstanding greatness in notable examples of them.

That we should do everything possible to bring the great personages of history and literature vividly before the minds of children is clearly important, since we can only in this way give them a knowledge of those qualities of human nature which are rare or seldom ready to hand. Moreover, children are more likely to gain an understanding of the finer possibilities of human nature by learning the words and phrases descriptive of them and by associating these with anecdotes and sayings which illuminate the nature of noble deeds than by just meeting with concrete examples of, say, the magnanimous and the base, the disinterested and the time-serving. Nor will children come upon enough examples of, say, the brave, the courageous, the valiant, the plucky, the intrepid, and the heroic to be able to distinguish satisfactorily between any two of them. This is why, perhaps, children are apt to treat synonyms as having identical meanings, the particular word selected being made to depend upon the sort of audience for which it is intended rather than upon a precise appreciation of literal significance.

7. HISTORY FOR CHILDREN

The difference between the child's ability at, say, the age of eleven, to write convincingly about those he knows intimately and about those of whom he has only heard or read is, naturally, considerable. "Historical or public personalities," says Allport,¹ "become greatly simplified in perspective, and they are remembered for only one accomplishment or trait; they virtually become personifications of some single abstract quality." The truth of this judgment was confirmed by the results of a test given to several hundred thirteen-year-old boys and girls in selective central schools. Twenty-five pen-portraits were prepared of some of the outstanding personalities in English history, and the children were asked to name the persons described. An example may be given:

This red-headed general was weak and sickly as a boy. When he grew up he was always extremely shy and anything but good-looking. He had, however, a firm character. He determined early in life to become a soldier, and he fought in Flanders at the age of fifteen. He was at the same time modest and fond of reading. He is said to have declared that he would rather have written a certain famous poem than take the city against which he was about to lead an attack.

¹ G. W. Allport, *Personality, a Psychological Interpretation* (London, Constable, 1938).

Those readers who may have been unable to recognize General Wolfe from the opening sentences will have had no difficulty in 'spotting' him on reading the sentence at the end. Wolfe was, indeed, usually named correctly because of the reference to Gray's *Elegy*. (See Appendices, p. 332.)

The average score for the test was 9.3 out of 25, which in itself is a sufficient indication of the difficulty of the test. We may, perhaps, suggest that until children can show that they understand something of the complexity of mental make-up which characterizes the great personages of history they will show little aptitude for the study of movements and policies.

The unreadiness of junior children for the study of history is shown by the following. A large number of children were asked by the present writer to read and answer the question set:

Suppose that you saw the statue of a famous man and that when you were told his name you found that you had never heard of him. What two questions would you think it best to ask about him?

The results support the views expressed above. At seven years of age a large number of these children seemed to be as much concerned about the material of which the statue was made as about anything else. With the increase of age, however, a greater interest was displayed in possible reasons for the existence of the statue and what it was that the man did that made him famous. But if the results are a trustworthy guide girls do not appear to realize so early as boys the need of asking such questions: 62 per cent. of the boys asked such questions at ten years of age as against only 26 per cent. of the girls. Those interested in the teaching of history may also find the fact illuminating that very few of the children below the age of eleven wanted to know when the man lived.

What should be our purpose in studying history? "It must be," says Mr F. S. Marvin,¹ "to understand our position in the civilized community to which we belong, what has led up to it, what use it is to us, and we to it, what hopes it offers for the future as based on the past." If this is so then history is no study for children. For them we should do well to confine our teaching to simple biography with a view to enlarging their experience of the manifold varieties of human behaviour.

8. KNOWLEDGE THROUGH IMAGINATIVE EXPERIMENT

One reason why some historians have failed to make their characters come alive is that they were too often preoccupied with the moral effect which they were producing. Thus, the

¹ From the Preface to Breasted's *Brief History of Ancient Times* (London, Ginn, 1913).

Victorian biographer was able to build up his hero as the representative of a rare type of virtue, but only at the expense of detaching him from the homely affairs of life. But if children and unsophisticated adults are to appreciate such personalities at their true worth they need to see them in their everyday settings and not with what is out of 'character' eliminated. For this reason the custom has grown up of providing chit-chat about the personal affairs of the great of the "What porridge had John Keats?" variety. For a similar reason we have witnessed the steady depreciation of historical characters who had been unwisely or unconvincingly idealized by their earlier biographers.

The difficulty of getting children to form vivid but realistic ideas of the great characters of history and literature may, however, be overcome to some extent by resort to the dramatic method of teaching. Just as we may learn more about material tools and appliances by handling them and putting them to valued use than by merely reading or hearing about them, so children may learn more about people by trying to act as they act—by putting on their masks, so to speak, both in games and in reality. As is well known, they ape their elders unceasingly, partly for the fun of the thing, partly (though possibly without a full realization of what they are really doing) in order to learn what it must be like to act as others do. This is learning through imaginative experiment, quite as common a method of getting to understand character as any other method, with young people a commoner and probably more effective method. As a modern writer has said:

The imbibing of another's style in one's tender years, which carries one along till one succumbs to a new influence, then a third, a fourth, until one's individual style is crystallized, is more important than one is likely to admit to the people whose personalities one has used in turn and discarded.

Natural outlets for the intense interest which most children of seven years of age and upwards increasingly show in admired persons are not difficult to find. Dramatic work, including miming and improvising, gives children the opportunity of trying on a variety of personality 'masks.' Reading can be made to centre around the adventures of interesting boys and girls and men and women. Composition lessons can be contrived which will furnish opportunities for inventing conversations to be used in dramatization, and for practice in taking other points of view. History lessons, which will naturally centre around biographical work, may be followed by simple discussions of motives and intentions. The main aim, however, will always be to enlarge the circle of the child's social experience so that he

will have sufficient material for a full understanding of the far from simple world of persons with whom he will have to rub shoulders later on. The measure of our success in the future in realizing this aim will be revealed in the extent to which the newspapers, the theatre, the cinema, and the novel provide, when they attempt to do so, a faithful account of the world, and cease to supply a wholly false or ridiculously over-simplified one in its place.

9. TRADITIONAL FORMS OF CHARACTER DESCRIPTION

Through observation, social intercourse, imaginative experiment, wide reading, and good teaching in history and literature children of seven years of age and upward come increasingly to understand something of the rich variety of character and personality that vitalizes human society. During the final stages of their school education they begin to feel more and more the need of an adequate language for talking about their growing experience of this new world where impressions, even when clear-cut and fully rememberable, are not easily described.

It will be useful, perhaps, to trace in the broadest outline how our modern and more realistic methods of character description have been developed. The simplest thing, at first, would seem to be to study characters in black and white and, as we say, in the flat rather than as portrayed in the round and with light and shade and colour. This method is best exemplified in the ancient world by the *Characters* of Theophrastus, already mentioned, and in the Middle Ages in the miracle motality plays of the fifteenth century. Theophrastus usually began his sketches with a statement of the central quality represented by his character, and then went on to illustrate how this quality became variously expressed in different forms of behaviour. The popularity of the method of the *Characters* was widespread in this country in Elizabethan times, as will be gathered from the large number of books written in imitation of Theophrastus—e.g., by Overbury, Earle, Butler, Fuller, and others. It is usually considered that La Bruyère in the seventeenth century perfected this form of writing. Unlike Theophrastus, La Bruyère did not name the central quality of his characters, but the traits described were always a harmony and, together with suitable physical counterparts, they presented convincing portraits of readily recognized types.

We have recently been told that:

Other writers following La Bruyère modify this method in the direction of an actual portrait. More than one trait is depicted,

but the skill of the author makes of the plurality an extremely harmonious picture or cluster of traits in which all that is distinctly individual is deliberately omitted. The patterns arrived at in these portraits are universal enough to serve as prototypes for whole classes of people. Giton, Phædon, and Theodacte are in our circle as they were in La Bruyère's.¹

The development of the novel has at length rendered the method obsolete, since it has made possible and, indeed, necessary the description of the more distinctively individual traits of a character as they need to be shown in a variety of contacts and circumstances.

10. CHARACTER DESCRIPTION IN TERMS OF A SALIENT TRAIT

The popularity of the Theophrastian method of character-drawing may be illustrated in another way. "Chaucer's century (and by no means that century alone)," says Mr Livingston Lowes,

had a trick of conventionalizing a single person into the representative, the *exemplum*, of a particular attribute or quality. Absalom was the stock embodiment of beauty, Solomon of wisdom, Cræsus of wealth, Hector of prowess, Hercules of strength, Esther of meekness, Penelope of wifely devotion, and so on, *ad libitum*. There were other things to be sure, as George Washington is something more than the frigid stateliness and Lincoln the homespun sagacity for which they stood to most of us. But the Middle Ages with uncompromising thoroughness sacrificed ruthlessly subsidiary qualities to throw into sharp relief the salient trait, till Griselda, for example, carried patience beyond the utmost bound of human thought.²

It may be added that most early biographies were of this nature. *The Life and Death of Wolsey* (1556) was a sermon on the dangers of worldly pride, and *The Life of the Renowned Sir Philip Sidney*, written in the succeeding century, was intended as a presentation of the model sixteenth-century educated gentleman. But we must not suppose that the method was, as Mr Livingston Lowes may be thought to suggest, just a literary trick. It was the natural expression of the beliefs of the vast majority of both educated and uneducated people. As Ben Jonson put it in *Every Man out of his Humour*:

Some one peculiar quality
Doth so possess a man that it doth draw
All his affects, his spirits, and his powers,
In his confluxions, all to run one way.

¹ G. W. Allport and P. E. Vernon, "The Field of Personality," in *Psychological Bulletin*, 1930, pp. 689-690.

² *Convention and Revolt in Poetry* (London, Constable, 1919).

Neither must it be assumed that every modern novelist has proved himself (or herself) superior to the older writers. Balzac's principal characters were usually monomaniacs with a single ruling passion. Present-day fiction abounds in characters who lack varied individuality—in beautiful spies, gold-diggers, sugar-daddies, smart Alecs, and the like. "There are many other characters, both in fiction and in history," says Allport,

known for a single outstanding trait: Uriah Heep for his sycophancy, Rosa Dartle for her peculiar insinuations, Oblomov for his procrastination, Mrs Jellyby for her presbyopic philanthropy, Micawber for his empty optimism, Chesterfield for his self-conscious 'good breeding, the Marquis de Sade for his sexual cruelty.¹

It would not be difficult to show that biographers in our own day have fallen victims in too many cases to similar forms of over-simplification in dramatizing their subjects, for example as heroes or heroines in conflict with the ignoble or the unscrupulous. Many of Macaulay's portraits (but not, of course, all) are examples of the method so used to depict heroes, while his portraits of Marlborough, James II, Boswell, and Barère² are notorious as exemplifying the opposite tendency.

II. THE EDUCATIONAL VALUE OF ÆSOP'S FABLES

Æsop's Fables were clearly written for people who were at this stage of development. This must be why they still appeal strongly to children to-day. That is, they represent the method of describing character in terms of some central quality or salient trait. For some reason not easily understood the Fables have fallen into neglect, possibly because the last generation insisted too strongly upon their moral lessons. But the Æsop stories have still one outstanding value which ought not to be overlooked. They give us clear pictures of types of character in great variety thrown into a form that permits of their being readily labelled. Besides, they are presented in a manner that delights the child as well as enlarges his understanding, particularly as they are simple enough to understand in the literal sense at an age when animal stories of any kind are keenly appreciated.

The advantage, needless to say, which the moralist and the satirist possess when they write of human beings in the guise of animals is that thereby they are able to omit so much of what would otherwise complicate the story and so concentrate on the simpler qualities which it is their aim to illuminate. Mr Aldous

¹ *Personality, A Psychological Interpretation* (London, Constable, 1938)

² "In him the qualities which are the proper objects of hatred and the qualities which are the proper objects of contempt preserve an exquisite and absolute harmony."

Huxley has said truly enough of this kind of writing that it succeeds because "an animal is in a certain sense more human in character than a man. For an animal bears the same relation to a man as a caricature to a portrait. It reveals all the weaknesses and absurdities that flesh is heir to."

Among children it is still the black or white character or the broad *type* that appeals most strongly; they can understand a character whose virtues or vices are unqualified, whereas greater detail or subtlety in the drawing and colouring of their heroes and villains is misdirected. Mr George Orwell¹ has described for us the characters of popular boys' weeklies, *The Gem* and *The Magnet*, in which, he says, there is a model for nearly every boy at this stage.

There is the normal, athletic, high-spirited boy, a slightly rowdier version of this type, a more aristocratic version, a quieter, more serious version, and a stolid 'bull-dog' version. Then there is the reckless, dare-devil type of boy, the definitely 'clever,' studious boy, and the eccentric boy who is not good at games but possesses some special talent. And there is the scholarship boy, an important figure in this class of story, because he makes it possible for boys from very poor homes to project themselves into the public-school atmosphere.

Foreigners are usually either comic or sinister characters: the Chinaman is invariably portrayed with a pigtail-cum-opium-pipe, the Frenchman with a goatee beard, the Spaniard with his dagger, and the Italian with a barrel-organ. Good teaching of a kind all too uncommon is required to develop the majority of children past this stage—out of a naive acceptance of the false or rather exaggerated simplicities of melodrama into an appreciation of the world more nearly as it is. Nevertheless, what makes possible the deep and lasting appeal of the melodramatic for most of us even yet is the undeniable fact that we are all of us exemplifications of some one easily recognizable salient trait or type of character more than we are of another.

12. AN ÆSOP'S FABLES TEST

A test carried out by the writer with a view to exploring in some detail children's knowledge of words descriptive of some of the commoner character traits as they are exhibited in the fables of Æsop may here be mentioned.

From among the many fables of Æsop twenty were chosen that seemed to present clear pictures of certain familiar character traits. These fables were each read twice to children of eleven

¹ *Inside the Whale* (London, Gollancz, 1940).

years and upward who were then asked to find the word which best described the outstanding figure in the story. Thus, the children might be asked to find a word that best described the performance of the camel who stood up to dance at a meeting of the beasts with a result that he set every one laughing. The examiner in this case would say, "What single word best describes the camel's performance? It was . . . *what?*"

The test was given in two forms. In the first form the children were instructed to search their minds for the most suitable word. This made the test hard not only for the children but also for the markers who dealt with their efforts, since complete agreement as to the relative values of the various answers given is well-nigh impossible. Nevertheless, the variations in the answers proved a basis of discussion between teachers and children which was of great educational value. In the second form five words were supplied with each story, and the one considered best had to be chosen. Thus the words offered as descriptive of the camel's performance were: (a) stupid, (b) ludicrous, (c) clumsy, (d) foolhardy, and (e) ignorant. In the case of the twenty fables set in the test the best choice of a descriptive word from the examiner's point of view gained two marks, the second best one mark; the rest, which had been put in as booby-traps, were awarded nothing at all. (See Appendices, p. 324, for further details.)

The figures given below were based on the answers of some one thousand seven hundred boys and girls. They will serve to show how few of the words necessary for the satisfactory description of character traits are at the command of children. The correlation coefficient between the two forms of the test (for 228 cases only) was $0.82 + .06$.

13. CHARACTER TRAITS AS A HARMONIOUS CLUSTER

It is an easy step forward from thinking of people in terms of a salient trait to thinking of them as exemplifying a cluster of traits which exist together in harmony. In fact, it may well be argued that once we have visualized a person as expressing one outstanding characteristic in all he does then it will be natural for us to attribute to him only such other characteristics as harmonize with it, which are, as it were, a 'halo effect.' In thinking, then, of the sort of conception which La Bruyère popularized we should do well to regard our cluster as having a nucleus which is very similar to the Theophrastian element. We have referred earlier to children having been set to describe others they knew well. At eleven years of age 75 per cent. produced La Bruyèrian portraits, at twelve years of age this

proportion fell to 65 per cent., and at thirteen years of age to 50 per cent. Now it is probably true to say that we do a great deal in our schools to suggest to children the idea that the great characters of history and the people of other nations can more or less correctly be described in Theophrastian or Bruyèrian terms. One has only to recall the language in which the writers of school books usually treat, let us say, William the Conqueror and Charles II, or, let us say, the Eskimos, the Red Indians, and the Dutch, to realize the truth of this. Moreover, even Shakespeare and Scott are inclined to present us their heroines as combinations of beauty, intelligence, and virtue, or the reverse.

Those children who do not get clear and definite ideas of the people of other countries from their teachers frequently get them from the cinema and the thriller, and these ideas are less often subjected to a wholesome scrutiny or criticism than is desirable. The results of a test given some years ago to a large number of Lancashire children of the age of thirteen may serve to show the urgent need of enlightened instruction. The children were asked to choose the most suitable (*i.e.*, the truest) from among four given endings for a number of unfinished statements about foreigners. For example, they were given the statement: *Most Chinese carry (a) fans, (b) revolvers, (c) long knives, (d) walking-sticks, (e) nothing at all.* What they thought to be the best completion—(a), (b), (c), (d), or (e)—was to be underlined. It was a matter of astonishment that some of the most intelligent children appeared to have been most influenced by the nonsense which they had read or heard, or seen on the cinema screen. As a result partly of their lack of experience and partly of the kind of training they have had, these children tended to think of foreigners of the less familiar races in the pure La Bruyère manner. If a Chinese had in their estimation one undesirable trait then they thought that it was highly probable that he would have all the others that might be suggested. If he carried a long knife, as in the Dr Fu Manchu films, then he must at best be only half-civilized, and so on. One obvious way of counteracting the influence of such views of life as are represented in the cheap periodicals and shoddy films is to select vivid tales which present a different picture and then to discuss the question as to where the real truth is to be found.

14. NATIONAL CHARACTERISTICS IN TERMS OF A SALIENT TRAIT

Description in terms of a cluster of harmonious traits is a favourite practice among writers who find themselves dealing

with the habits of the people of other nations. At some time or other all the words that follow have been separately used to sum up the characters of the peoples in question. The Englishman has been described as reserved, tolerant, stubborn, dogged, honest, undemonstrative, phlegmatic, staunch, sporting, steadfast, and straight; the Irishman as facile, impulsive, witty, irresponsible, contrary, hot-headed, volatile, and talkative; the Welshman as temperamental, emotional, wily, fervid, plausible, crafty, and elusive; the Frenchman as logical, dapper, materialistic, polite, conventional, and thrifty; the German as systematic, ponderous, methodical, efficient, orderly, painstaking, and thorough; and the American as enterprising, hustling, progressive, versatile, shrewd, cute, and practical, and so on.

No group of synonymous or nearly synonymous adjectives can adequately describe any nation or any of its representatives.

Such descriptions as those quoted above could be seriously employed only by those who see the infinitely varied world in a few clear lines and colours, a disability which closer observation and fuller experience has done nothing to change. All simplified descriptions have a value, however, when understood for what they are—*viz.*, a means of rough and ready comparison.

15. DESCRIPTION IN TERMS OF QUALITIES AND THEIR DEFECTS

It has been observed more than once that men and women have as a rule to pay for possessing outstanding qualities in one direction by displaying unmistakable weaknesses in another. Those with weaknesses of this sort are said to have the defects of their qualities. A well-known series of descriptions in terms of qualities and their corresponding defects occurs in Oliver Goldsmith's poem, *The Traveller*. Nature and Art, he says, supply us prodigally with certain good things, but if we make too much of any one of them advantage turns to disadvantage:

Till carried to excess in each domain,
This favourite good begets peculiar pain.

Thus, as Goldsmith sees them, the fortune-favoured Italians develop the weaknesses of spoilt children, the hardy but impoverished Swiss cannot but betray a lack of refinement and culture, the cultivated French tend to develop superficiality, while the industrious Dutch become in consequence of their enforced mode of living selfish and miserly.

The point we would wish to make is not that Goldsmith's analysis of the various European peoples he describes is a

sound one, but that it represents an advance upon the methods of character description so far discussed. It is a kind of description which is usually beyond the grasp of the ordinary schoolchild.

Mr Livingston Lowes has provided some striking illustrations of the method. He speaks thus of the qualities of the perfect writer. He would have:

the lucid sanity of a Bertrand Russell without his liberal smugness; the bitter incisiveness of Bernard Shaw without his sterility; the rich humanity of H. G. Wells without his splashing over; the analytical profundity of Proust without his mawkish snobbism; the elemental sweep of D. H. Lawrence without his gawky bitterness; the miraculous naturalness of Tchekov without that sorry echo of the consumptive's cough; the supreme poetic moments of Goethe unimbedded in the suet pudding of his common day; the intimations without the imbecility of William Wordsworth; the lyrical imagery of Shakespeare without his rhetoric; the pathological insight of Dostoevsky without his extravagant suspiciousness; the life-giving breath of Tolstoi without his foolishness; Turgenev's purity in reproducing nature without his sentimentalism; the lyrical power of Pushkin without his paganism; the elegiac quality of Leimontov without his 'Byronism'; the humour and epic language of Gogol without his provincialism; the spirit of Voltaire without his tinniness; the human understanding of Dr Johnson without his over-bearingness; the dash of Byron without his vanity; the faithful portraiture of Flaubert without his tortuous fastidiousness.¹

We may add that we often see the mechanism of compensation at work in individuals, driving them to the development of the character traits which, consciously or unconsciously, they feel themselves to lack, or to disguise those which they feel may expose them to ridicule. Thus, we read of the late Mr Lytton Strachey that he made himself into a Voltaire as a writer, because he knew himself to be really a Rousseau.

16. RESULTS OF A TEST ON 'MAGPIE' TYPES

It is immaturity, rather than ignorance, which leads children to classify people (*a*) as simply good or simply bad, in terms of a salient trait, or (*b*) in terms of a cluster of traits that hang harmoniously together. That the average child's understanding of character amounts to little more than this may be further demonstrated. Just over a thousand children were asked by the present writer to say whether the same person could possess certain pairs of qualities at one and the same time, some combinations being

¹ *Convention and Revolt in Poetry* (London, Constable, 1919).

clearly impossible—*e.g.*, those described by the adjectives handsome and ugly—others being common enough in everyday life. Twenty pairs of words were employed, and the meanings of the forty words so used for the description of character traits were carefully explained to the children (but not in pairs) before the test was taken. The results certainly suggest that few children under the age of eleven appear to realize that a person may at once be both grumpy and generous, or affectionate and dishonest, or even faithful and stupid. Even in senior schools less than 50 per cent. of boys and girls of thirteen and fourteen appear to understand that these combinations are possible ones. It is perhaps worth mentioning that the boys tested showed to better advantage than the girls, contrary to the writer's expectations, the reason perhaps being that girls are nowadays being more exclusively reared upon the kind of fiction and the kind of film that gloss over many of the facts of life.

Sooner or later, however, children come to realize that good and bad qualities commonly exist side by side in most of us, and when this stage has been reached the way is open to a much more satisfactory understanding of human nature. Children can learn in their history lessons, for example, that there have been many characters in history who were both *cheerful* and *selfish*—*e.g.*, Henry VIII and Charles II—and many who were *kind* and *foolish*—*e.g.*, Edward II and Richard Cromwell. A closer study of representatives of the same class must at length lead to a revelation of the important truth that every person is an individual and that even to employ what we may call the black-and-white or *magpie* type of classification is at best but to make no more than a rough approximation to the complete truth about human nature. This means that we do not arrive at a complete appreciation of individuality without passing through the preliminary stages the nature of which we have been endeavouring to indicate. Excessive scorn for those at a lower level of development is a sign that a secure foothold has not yet been established upon the level above.

17. CONVENTIONAL MIXTURES OF GOOD AND BAD QUALITIES

It may be argued with some force that the more civilized a community the richer the variety of types of personality and character which are accepted as not unnatural. Children learn from their elders what types are socially approved, and in their turn their elders are educated to the acceptance from time to time of fresh types through the novel and the film. Thus many of

the types popularized by novelists half a century ago are no longer as daring and original as they at first were thought to be. The gradual acceptance, for example, of Jane Eyre, Adam Bede, and Tess of the D'Urbervilles as natural human beings is evidence of what we mean. But not every type in favour with the novelists is quite so true to life as these. One might instance the woman of fine, generous disposition whose morals are anything but what they should be; the cold-blooded villain who loves his dog or his child with the love that passeth human understanding; the thief who is loyal to his friends even when his life is at stake; the professor who is a complete simpleton in matters of everyday life; and so on. Some of Dickens's 'fantastics,' Ouida's super 'he-men,' William Black's 'beautiful witches,' Charles Garvice's 'Cinderellas,' and Wren's 'Beau Gesteurs' are cases in point. Bret Harte's heroes with hearts of gold beneath a rough exterior, with 'tears on the manly cheek,' and with a way of making peace with sworn enemies at the point of death, are all in the same vein. Many of these pass muster because so few of us have had experience of the spheres of life in which they are made to move.

But it is possible that many of those who have a tendency to resemble a type of the kind popularized in fiction or history endeavour by reason of their admiration of the type to develop all the qualities which will bring them completely into line with it. The hospital matron, at once sensible but severe, sympathetic but tolerating no nonsense, is a type by which many a young probationer nurse unwittingly models herself. It might be said—though not altogether with perfect truth—that up to the middle of the nineteenth century the traditional method had been to make environment and training the determiner of type in fiction, so that given in any story a lawyer or a parson or a squire or a schoolmaster or a general or an admiral, one could be reasonably sure of finding that they were endowed with certain well-marked characteristics by which they could always be identified. Most of the new types arose as a result of passion overrunning the mould prepared for it. After the Brontës and Miss Braddon had written it was possible, for example, for a young lady, well-brought up, to admit to having a passionate nature.

It would be a commonplace remark to say that biography is far more truthful to-day than it was fifty years ago, when the variety of socially approved types of great men was less rich. In consequence, Byron, Wordsworth, the Brontës, Wagner—to mention only a few persons—have all been subject to revaluation now that we are not too troubled by the fact that there may be "spots and clouds in the sun."

18. SOME EXAMPLES OF CHARACTER DESCRIPTION OF WELL-KNOWN PERSONS

It may be interesting at this point to draw attention to the various conceptions of character and personality that underlie the judgments passed by the living on the dead. An excellent set of portraits, each furnished with a thumb-nail sketch of its subject by an eminent writer or statesman, has been issued by the National Portrait Gallery. The stages of development in the appreciation of the complexity of human character and personality which we have been trying to make clear, are all represented in these sketches. Here, for example, is a Theophrastian sketch of the Aggressive Man (quiet until aroused) by Mr John Drinkwater; he describes Oliver Cromwell as:

An inconspicuous farmer with a modest local reputation in public affairs until he was forty. But his character epitomized the smouldering Puritan revolt, and when civil war broke out he revealed a demoniac energy. He made and led a new army which was never defeated in the field. Destroying Royalist tyranny, he himself became an autocratic ruler for ten years.

And here, in the manner of La Bruyère, is the pen-portrait of Sir Robert Walpole (the man of many parts, all admirable) by Mr Lloyd George:

Was the chief architect of our present constitution, transferring power from the Lords to the Commons, creating the post of Prime Minister and the system of Cabinet Government. He was a great Parliamentarian, a powerful debater, and an adroit manager of the House of Commons. A sound Finance Minister, he established the Sinking Fund, laid the foundations of Free Trade, supported religious tolerance, and was a passionate advocate of peace.

Here, again, is a 'magpie' portrait of J. M. W. Turner by Sir Charles Holmes:

The son of a Covent Garden barber, he passed his life in sordid retirement, while acquiring great wealth, and a fame which is now world-wide, by the power, the ethereal delicacy, and the incomparable splendours of his landscape painting.

Here is the portrait of a man with the defects of his qualities, Lord Castlereagh, as seen by Mr Duff Cooper:

For ten years he spoke for England in the councils of Europe, and largely contributed towards the defeat of Napoleon and the construction of a lasting peace. Strikingly handsome, he was a poor orator and despised popularity. During mental collapse, caused by overwork, he committed suicide. The malice of the Whigs pursued him beyond the grave, and for long prevented due recognition of his great services.

And finally here is an attempt at a faithful human portrait by Lord D'Abernon of Mr Gladstone as a public man, which tells us as much of the essential truth about him as could be told in less than forty words:

Four times Prime Minister, he rendered incomparable service to liberty. In finance a rigid economist, he reduced taxation, striking the shackles from the arm of industry. As writer—diffuse; as orator—supreme, excelling in power and vehemence.

19. THE INADEQUACY OF MOST DESCRIPTIVE LABELS

To-day there are signs that some of our writers are conscious of what they would describe as the false simplicity that underlies our conceptions of people. Thus, Mr Lytton Strachey, in his *Eminent Victorians*, took the characters of Gordon, "the Christian soldier," Florence Nightingale, "the angel of mercy," Cardinal Manning, "the saintly prelate," and Dr Arnold, "the great public schoolmaster," and showed us how inadequate the labels were. Whether his own are any better is another matter. Too often the highbrow reaction is merely to reverse the carpet and reveal the seamy side, which, regarded as an attempt to show us the complete carpet, is just as unsatisfactory.

What those who scoff at the Theophrastians, the Bruyèrians, and the Goldsmithians among us forget is that all names are general terms and that a classification in broad types is a necessity for those people who are psychologically and ethically immature and a convenience for those who employ them merely as first approximations to the truth. It is for the former and not for the Lytton Stracheys that the Characterologists and the authors of thrillers write. This is not to say that writers may do as they like. Their truth, however, must be such as their readers can appreciate. Few children can apply other than the vaguest of descriptive terms to the outstanding characters of history. Julius Cæsar, Alfred the Great, William the Conqueror, and so on are thought of as exemplifying the simplest and broadest of qualities. For our children they are Theophrastian types. To portray them in greater detail is to make them both unattractive to the children and beyond their understanding.

20. CONCLUSION

One way of getting beyond the stages represented by (a) the salient-trait description, (b) the trait-cluster description, and (c) the magpie description is to study the historical pen-portraits drawn with subtlety and insight by the best modern historians.

But study of this kind is impossible for the unsophisticated. There is a stage when the child must learn about Alfred and the cakes, Sir Philip Sidney and the cup of water, and Queen Victoria and her resolve, "I will be good." And, as we have suggested, there is a later stage not always reached in the schools when children must learn that William the Conqueror, although merciless to his foes, was yet a good husband, that Robin Hood, though a robber, had a generous heart, that Charles I, though a bad king, was yet a kind father, and that his son, though unprincipled, yet encouraged the arts and sciences; and so on.

It is with the approach of full maturity that the individualized portrait begins to appeal. In the century almost entirely given over to type-description Chaucer had already indicated the superior method by the extraordinarily vital and individual character of the Wife of Bath in his Prologue to the *Canterbury Tales*. Later on Shakespeare tried out his hand at first with well-known types, and only after he had educated his audience did he put forward the rounded and finished personalities of Hamlet, Macbeth, Falstaff, Beatrice, Cleopatra, and Lear. To-day we may estimate the maturity of a person by his literary preferences in the realm of character, for every grade of character-description abounds in the novels that are published day by day.

To conclude then, there is no need to defend the common practice of thinking of people as classifiable into types. The only question is: What quality of type do we think in terms of, and what sort of thinking do we do with it? In so far as we believe our types to be a true picture of life and to be accurately representative of actual living individuals they are a snare and a delusion. But in so far as we use them as standards by which to compare those whom we meet as we go about the world they serve the same purpose as the foot-rule, a measure which rarely corresponds to anything actually found in nature, but which by reason of its very invariability and rigidity shows us to what extent natural things exceed or fall short of it or of its multiples or submultiples.

NOTE.—The word-portraits at pp. 192 and 193 are reproduced here by the courteous permission of the Director of the National Portrait Gallery.

CHAPTER VIII

METAPHOR AND ANALOGY

I. THE ORIGIN OF METAPHOR

As we have more than once indicated, to give a thing a name is to mark it as one of a class of similar things—for example, tree, paper, anger, city, are names common to many things of the same kind. Language is essentially an instrument for classification. But we put things into classes as often from an inability to see differences as from an ability to see resemblances. Thus, in one sense the fullness and the precision of our language is evidence of the range and quality of our knowledge of the world.

Effective as our language may be, however, for our purposes in dealing with objects and events in the physical world and with the observed behaviour of persons in the social world, it is but an imperfect instrument for describing and classifying the more intangible things of life. When we have to speak to some one of a concrete object not present to the senses, we can usually name it; in many instances we may be able, if asked, to show a picture or make a sketch of it; and when we wish to describe an absent stranger we may, when we cannot name him, show a photograph of him, or by means of a verbal description call up an image of the sort of person he is, either by comparing him with a mutual acquaintance or by likening him to a familiar type in literature. When, however, we speak of an idea or a quality of mind that does not lend itself easily to description in pictorial or precisely descriptive terms we are frequently driven to saying, "Well, it's like this . . ." and then we proceed to make use of an analogy as an aid to our description. So it is common to speak of the mental life in terms that are primarily applicable to the physical world—for example, we speak of an upright character, an unquenchable spirit, an iron will, a robust intelligence, a penetrating understanding, a well-weighed judgment, and so on. We speak, too, of sweet dispositions, bitter disappointments, sour looks, and acid comments. To-day we are apt to take these ways of putting our thoughts as matter-of-fact descriptions, but it is well to remember that, when first used, the analogies implied were due to flashes of original insight into the nature of human behaviour. There is reason, therefore, for following Aristotle in attributing metaphor, which is based on analogy, to an intuition of resemblance in things previously taken to be dissimilar. Analogy (or simile), of course, is no more

than the explicit statement of the likeness implicit in metaphor. Here we find an explanation of why the language of the poets and the mystics is so full of metaphor. How otherwise shall we describe, for example, God or Life or Death than by some homely parallel? The Gospels present God as a Heavenly Father; Old Testament writers called Him the Lord of Hosts, and the Judge of All the Earth; the Psalmist tells us that "The Lord is my Shepherd"; the nun in her ecstasy sees her Lord as the Heavenly Bridegroom; the Evangelist saw Him as the Light of the World. Life, too, has been variously described as a shadow, a vapour, a leaf blown about by the wind, as a flower cut down at eventide, as a "dome of many-coloured glass staining the white radiance of eternity." And Death has frequently been pictured as a reaper with his scythe, and the state of Death as a release from care, as night following day, and as a torch burnt out.

2. MODERN AND PRIMITIVE LANGUAGES COMPARED

This descriptive and illuminative purpose of metaphor has been largely forgotten; the value which appears to be most appreciated to-day is its pictorial and decorative value. Nevertheless, those who have studied closely the languages of primitive peoples are inclined to the view that metaphor was first employed in the way we have suggested—*i.e.*, to describe the otherwise indescribable in terms of something familiar which it may be taken to resemble.¹ Indeed, apart from the impossibility of describing faithfully the things that are invisible or intangible, the relatively small vocabularies of primitive peoples, which are marked by the absence of wide general terms, must be altogether inadequate for conveying precisely more than a small proportion of their needs. Professor Otto Jespersen says, for example, in comparing the graphical concrete language of more primitive times with the language of civilized peoples to-day, which abounds in colourless general words, that if by a mental effort we could transport ourselves to a period in which language consisted wholly of such graphic concrete words we should find that in spite of their number they would not suffice, taken all together, to cover everything that needed expression; a wealth of such words, he declares, is not incompatible with a certain poverty. They would often be required to do duty service outside their proper sphere of application.

¹ "Before the rise of Greek philosophy many ideas could be expressed only obliquely in the example . . . Certainly it is very doubtful if in Homer's day abstract thought was sufficiently advanced to allow such an idea to be expressed in any other than the concrete particular form"—E. M. W. Tillyard, *Poetry Direct and Oblique* (London, Chatto and Windus, 1934).

That a figurative or metaphorical use of words is a factor of the utmost importance in the life of all languages is indisputable; but I am probably right in thinking that it played a more important part in old times than now.¹

An indication that this may be the true explanation of the origin of metaphor is to be seen in the fact that we still find it natural and convenient to fall back on the primitive method of describing things that are new and things of an abstract or abstruse nature that have not been previously found expression in words with any degree of success. Examples are not difficult to find: thus, in the world of physical objects we have the *baby-car* and the *fountain-pen*, *broadcasting* with its *wave-lengths*, its *loud-speakers* and its *running commentaries*; while in the immaterial world we have *highbrow* and *lowbrow* literature, the latter kind being variously described with contempt as *tripe* or *dope* or *sob-stuff* or *cat's-meat* or *trash*.

3. DIFFERENT LEVELS OF METAPHORICAL EXPRESSION

As instruments of description, analogy and metaphor may be employed on any one of at least four distinct levels of complexity: the levels of (a) naive identification, (b) descriptive identification, (c) analogy proper, and (d) proverbial identification.

It is not difficult to find instances of naive identification in the language of everyday use. Little children, for example, usually give a literal sense to the terms *silver paper*, *goldfish*, *tinfoil*, and *queen bee*; and in their ignorance misapply names, a practice which we may like to think indicates imagination on their part, though we may really know it to be nothing more than literalism gone astray. For example, children may speak of tassels or catkins as *sheeps'-tails*, or of whiskers as *feathers*.

Descriptive identification is employed when we speak of one thing as if it were identical with another though we are fully aware that it is not. Thus, we speak of the *wings* of a building or the *wings* of an aeroplane without supposing that in their functions they are really like the wings of a bird. Similarly, we speak of the *legs* of a chair or table, the *face* of a clock, the *veins* of a leaf, and the *heart* of a forest. In the same way we are constantly using verbs metaphorically: our clocks *tell* us the time; the kettle *sings*; the motor-car engine *hums* or, maybe, *jibs* at taking a steep hill.

When we speak of a set of concrete circumstances as though they were identical with another set we are making use of analogy proper. This is no more than an extension of what we have

¹ *Language, Its Nature, Development and Origin* (London, Allen and Unwin 1922).

called descriptive identification to cover two sets of related things instead of just two simple things. We may liken, for example, a girl at a piano keyboard to a queen with black and white subjects ready to obey her wishes: this analogy was neatly worked out in a poem by Sir William Watson. Shakespeare excelled in this kind of analogy, as indeed in every kind of metaphorical imagery. His parallels between the world and the stage, the quality of mercy and the gentle rain from heaven, the river in flood and the tide in the affairs of men, are well known. Briefer analogies similar to the following may be instanced by the score from his plays and poems:

- (a) Death lies upon her like an untimely frost
Upon the sweetest flower of all the field.
- (b) So tedious is this day
As is the night before some festival
To an impatient child that hath new robes.
- (c) I found you as a morsel cold upon
Dead Casar's trencher.

Lastly, we may speak of some truth of experience as though it were identical with another more familiar truth. Here we are in the world where proverbs are current coin. Thus, the proverb "You cannot make a silk purse out of a sow's ear" is no more than a commonplace when it is meant to refer directly to pigs, but usually it is meant to convey a much more fundamental truth about human nature which cannot be easily expressed in literal terms. This is the form of analogy which we have called proverbial identification.

1. METAPHOR AT ITS SIMPLEST

At its simplest, then, metaphor frequently takes the form of naive identification of one unfamiliar thing (the actual name of which may be unknown) with another more familiar thing which in some way resembles it. Piaget gives us an interesting example of the kind of error that creeps into children's thinking through their supposing that what is true of the more familiar thing must be true also of the less familiar thing which it suggests.

- "Is glass hard water?" asked a little child.
- "Why do you think so?" inquired the father.
- "Because you can see through it," the child answered.
- "Well, it isn't hard water," said the father.
- "Then water must be soft glass," concluded the child.

Here the child has come to think that if two things have the quality of transparency they must be made of the same substance

When the child can be misled so easily by what he sees it is not surprising that the additional influence of language in suggesting, through a common name, an identity of nature where really there is none should be so great. Most little children have had lessons about the *pores* of leaves and their functions, and if our own experience is a good guide they will attribute the same function to the *pores* of the skin, if not immediately corrected, and assume that they are little holes for use in breathing.

Hence we must not think that what constitutes for adults the original or literal meaning of a word is equally the original and literal meaning for the child. In many cases there is no difference, but there are many words which a child learns to use first in their derived senses, and here confusion may arise later. For example, he may hear of men driving trains before driving horses, and possibly of descent from an ancestor before descent from a tree. In such cases there is always a tendency to identify the literal sense of a word with its most familiar use, or the earliest meaning met with, particularly if the commonest application of the word in question is a concrete application.

5. ETYMOLOGY AND METAPHOR

The results of a test given to a large number of London children bear this out. Forty questions about common words were set to ten-year-old children. For each question three sentences were given containing the same word used in different senses. The children were asked to mark the sentence in which the word had been used with its first or literal or original or proper meaning, and the teacher was instructed to explain in detail what was required. The sole aim in the test was to discover what general factors influenced the children in making their judgments. In the case of ten of the questions one of the incorrect answers possible was almost always selected oftener than the correct one. An examination of these sentences showed clearly that what the children understood by the first *proper*, *original*, or *literal* meaning of a word was the most familiar or commonest use of it, and that when they were in doubt they tended to identify the literal with the concrete. This is what, with a little reflection, one might expect. The child at this age has no knowledge of etymology worth mentioning.

To speak of a person being 'upset,' of a 'bit' of fun, and of 'losing' one's way is as familiar to the child as to speak of 'upsetting' a jug of water, or of a 'bit' of meat, or of 'losing' a shilling, and whether one or the other kind of usage is chosen to stand as the literal usage is apparently a matter of chance. But while

both adults and children are frequently ignorant of the metaphorical origin of many apparently literal terms, there are some metaphors which are felt at once by children to be non-literal. A recent writer, for example, says "I vividly recall my amazement [at the age of nine] at finding that silence could be *broken*."

It may be that at the age of eight or nine children harbour no delusion about parenthood when they hear George Washington called the Father of his Country, or England spoken of as the Motherland, but there must be a good many metaphorical usages which befog their minds.

For the reason that some metaphors confuse younger children we ought to avoid metaphorical explanations in teaching. Thus the ideas of etymology are not made simpler when etymology and derivation are replaced by commoner words. To speak, for example, of one word as 'coming from' another at this age is not to make things easier; it is largely a waste of time except in the case of the more intelligent and better equipped children. Underlying all this we may detect what may be called the teacher's fallacy, which comes of supposing that an idea put into simple words is a simple idea; though, of course, if this were true it would be easier for the child to understand Wordsworth than Kipling. Further illustrations could be borrowed from any subject; for example, in grammar nothing is made any simpler by calling a verb a 'doing word'.

6. THE ANTHROPOMORPHIC VIEW OF THE WORLD

The commonest errors of naive identification among children arise from their not distinguishing clearly between living and inanimate objects. They have no clear conception of what *life* is. Up to six and a half they tend to take an anthropomorphic view of the world; they appear to attribute life to all that moves or seems to move. Thus, they may treat their toys as of like nature with themselves; they scold them and kiss them, and at first without any trace of *make-believe*. It is not that they distinguish from the outset what is alive from what is not, and then proceed to personify the latter, which is what is implied in the theory of animism (so long popular as an explanation of primitive beliefs). Rather the fact seems to be that up to about the age of six and a half children do not form a clear idea of their own personalities as being entirely different in nature from the inert things around them, and consequently they are unable to draw a distinction between what is living and what is not. But as they become aware of personality in themselves they hesitate to ascribe it to more things. From the age of about six and a half

onward they depersonalize the world of natural things as fast as the school and the home will allow them, and on the whole this process goes on faster among boys than among girls. Owing, however, to the influence of language there is a tendency among immature children even as late as at eleven and twelve years of age to treat personified things as fully animated. Thus, the breeze that is so commonly described as sighing and whispering has life and personality for immature children of a fanciful turn of mind, while most little children, imaginative or not, look upon the metaphorical live wire of the electrician as a living wire.

Writing from a slightly different standpoint, Professor Lloyd Morgan says:

An account of what happens rendered in dramatic terms is far more primitive than that which is rendered in scientific terms. Primitive folk could not, it seems, pursue their customary avocations without encountering much that, in accordance with their dramatic outlook, showed how busily at work are fairies, pixies, imps, gnomes, naiads, dryads, goblins, and beings of that ilk, however they were named. Aiding them, or thwarting them, in their own acts were spirit-agents, good or bad, whose acts must be reckoned with. The world was peopled by agents of like nature to themselves as actors on the scene. Much that happens was accounted for or explained as due to their agency. In the childhood of the race, as in the childhood of the individual, the reiterated questions are: "Who made it?" "Who did it?" "What for?"¹

Girls are apparently more susceptible to this kind of influence than boys; boys tend to over-mechanize phenomena, whereas girls tend to over-vivify phenomena and both beyond what is justifiable. It is clear from this and from general observation that as a rule the æsthetic sense of boys may be most readily quickened through their experience of the beauty of neatly contrived mechanisms and that of girls through their experience of beauty in living things.

7. AN EXPERIMENT DESCRIBED

A simple illustration will make the point clear. In a number of schools children were given a list of words: *stones, trees, rivers, lions, clouds, clocks, the sun, the wind*. They were told that some of these words were names of things that were alive, and some the names of things that were not. The children were then instructed to underline the names of the things that were alive, and the word *lions* was underlined for them as an illustration of what

¹ C. Lloyd Morgan, *Mind at the Crossways* (London, Williams and Norgate, 1926). But see footnote at p. 157.

they were to do. In the test in question it was found that mistakes were not infrequent even at the age of fourteen, but that generally by the age of seven some 80 to 85 per cent. of the boys and 70 to 75 per cent. of the girls had already begun to think of the *sun* and the *wind* as inanimate things, though less than 50 per cent of the boys had begun to realize clearly that *trees* were alive.¹

The difficulty experienced by little children in working such a test as this is probably greater than one realizes. But it is not difficult to find instances from everyday life that would illustrate what their difficulty is. Thus, one day some little children were standing agape in front of a life-size and lifelike model of a sheep in an outfitter's shop window. Its head and ears and tail had been made to move electrically; the model itself and the movement certainly produced the illusion of life. What was life more than that to the children looking on? For, indeed, they talked as though they were looking at a live animal. Apart from the more obvious characteristics of living things the concept of life is not easily distinguished by the child. Instances of the same kind are common enough to make us understand how difficult it must be for primitive or unlettered people to take off the spectacles of personification in looking at what is strange in form or in movement in the world around them.

8. PERSONIFICATION AS A LITERARY DEVICE

Personification is a device which allows us, to use the words of Mr I. A. Richards, "to say compendiously and clearly what would be extraordinarily difficult to say without it."² But this sort of thing can be much overdone as a method in teaching little children. For example, in the first volume of a series of nature readers meant for use in schools there is a great deal to be found about baby buds, and about sticky stuff covering the baby buds to keep Jack Frost from creeping in and hurting the baby leaves,

¹ The following figures were supplied to me independently by a teacher who repeated the experiment with some two hundred children individually:

PERCENTAGES OF CHILDREN WHO ATTRIBUTED LIFE TO:	AGE		
	5 years	6 years	7 years
Trees	62	69	80
Water	35	20	15
The Sun	65	60	56
The Wind	80	50	42
Fire	70	38	32

² *Practical Criticism* (London, Kegan Paul, 1929).

about plants having no water to drink in very dry weather, about the mistletoe being a lazy plant that steals most of its food, about Mr Hawthorn and Lady Willow, and about Mr Sticklebaak, who puts on a new coat with a scarlet vest when he sets out to find a wife, and so on. "Suppose all the seeds from the privet bush fell to the ground under Mrs Privet and began to grow," says the author. "They would find it terribly dark, and baby plants become sick and die if they cannot see the sun." The assumption all through is that little children must, of necessity, be talked to in this way if they are to understand; and it is implied, moreover, that they like this kind of talk. The truth is that such personifications may serve to hinder development by holding the less intelligent child at the level of naive anthropomorphism. Certainly what is said by means of the device of personification might have been said by the author equally well without it. But we may admit that as soon as children begin to distinguish clearly between fact and fiction in this sphere they are ready to enjoy make-believe; not before, however. We can imagine them enjoying, for example, at a somewhat later age Mrs Marcet's personifications in a Victorian treatise, *Mary's Grammar Book*, in which, for example, the busybody word *that* is shown to be doing the work of half the parts of speech. Here there is no doubt that the writer was enabled by device of personification to say compendiously and clearly what it would have been extraordinarily difficult to say without it. In teaching little children we should, therefore, leave them in no doubt that, after all, when we are indulging in make-believe it is all 'pretending' and nothing more.

Before passing on to speak of simile and metaphor at the third level—that is, of analogy proper—it may be useful to distinguish between analogy and metaphor and the symbol. A symbol is a visible form or sign which suggests to the mind something pictured by association with it, and the association often has the nature of a strong emotional tie. But whereas analogies and metaphors originate in an intuition of resemblances so that the association involved is one of similarity, symbols originate out of an association by contiguity. In this way, the Cross represents sacrifice; the red rose, passion; the lily, purity; and the olive branch, peace.

Symbolism was much more frequently employed when the mass of people were unlettered than it is, perhaps, to-day, but even to-day it is widely in evidence. As Professor A. N. Whitehead says, "Symbolism is no mere idle fantasy or corrupt degeneration: it is inherent in the very texture of human life."¹ Of symbols, Miss Underhill says that "they are like coins varying

¹ *Symbolism* (Cambridge University Press, 1928).

in beauty and often of slight intrinsic value, but of enormous importance for our spiritual currency because accepted as the representations of a real wealth."¹

9. THE HOMERIC SIMILE

The understanding and use of what we have called analogy proper probably develops later than simple metaphor. It arises from a clear intuition of resemblances rather than from a confusion of identities; it represents the ability to employ metaphor with conscious awareness of its nature. The simile represents the figure in its simpler form.² Again, in the hands of literary aspirants, the simile, like the metaphor, is apt to be used purely for its pictorial and decorative value. A history of figurative language throughout the ages would probably make clear the gradual shift of emphasis that has taken place from description to decoration. We may, perhaps not unfairly, illustrate our meaning by reference to the Homeric simile. Here, to begin with, is a well-known simile from the *Iliad*:

As when on the echoing beach the sea-wave lifteth up itself in close array before the driving of the west wind; out of the deep doth it first raise its head, and then breaketh upon the land and belloweth aloud and goeth with arching crest about the promontories, and speweth the foaming brine afar; even so in close array moved the battalions of the Danaans without pause to battle.

Iliad, IV, 422.³

Let us compare this simile with a Miltonic example from *Paradise Lost* conceived in the same manner:

As when a vulture, on Imaus bred,
Whose snowy ridge the roving Tartar bounds,
Dislodging from a region scarce of prey,
To gorge the flesh of lambs or yeanling kids
On hills where flocks are fed, flies toward the springs
Of Ganges or Hydaspes, Indian streams,
But in his way lights on the barren plains
Of Sericana, where Chineses drive
With sails and wind their many wagons light
So in this windy sea of land, the Iliad
Walk'd up and down alone, bent on his prey.

Paradise Lost, III, 431-441

¹ *Life of the Spirit* (London, Methuen, 1922).

² Many grammarians speak as though the simile preceded the metaphor in its appearance. Thus, says one writer, "instead of comparing qualities common to two people, as we do in using a simile, we boldly transfer the qualities of the one to the other and make a metaphor." The view taken in these pages, on the contrary, is that the simile is the later development.

³ T ang, Leaf, and Myers' translation (London, Macmillan)

It will be evident to the reader that Homer was intent neither upon decoration nor upon detailed description in his account of the advance of the Danaans. It was just the comparison between one splendid and thrilling thing and another, both of which had moved him deeply, that he wished to emphasize; his purpose was to make his readers or hearers feel rather than see what the advance was like. On the other hand one cannot but feel that Milton makes use of the Homeric simile mainly for its picturesque effects. Both in Homer and Milton there is a great deal of apparently irrelevant detail, but there is this significant difference, that the detail in Homer rather adds to than takes away from the emotional effect which he is alone interested in.

Most poets have at one time or another made use of the Homeric simile. To come nearer to our own age, Matthew Arnold made frequent use of it in *Sohrab and Rustum*, often with something like Homeric effect. For instance, he describes thus (no doubt with the above passages from the *Iliad* and *Paradise Lost* in mind) the advance of the Tartars:

From their black tents, long files of horse, they streamed:
As when, some gray November morn, the files,
In marching order spread, of long-neck'd cranes,
Stream over Caspian, and the southern slopes
Of Elburz, from the Aralian estuaries,
Of some fiore Caspian reed-red, southward bound
For the warm Persian sea-board; so they streamed.

Sohrab and Rustum (110-116)

Here we have something, but not everything, of the press and movement of Homer but something also which is mainly decorative—viz., the Miltonic use of high-sounding proper names employed largely for their associational effect.

Such images and parallels become proofs of original genius, said Coleridge, only in so far as they are modified by a predominant passion. After a deep impression has been made upon a sensitive and imaginative mind by some vivid experience then whatever arouses the same kind of feeling later will tend to recall the original experience, and there will be a fusion of past image and sensation. Thus, Shakespeare's imagery is not merely the product of a clever man; that which had strongly aroused, for example, his pity, his admiration, his delight, or his disgust in early life returned to his mind later when considering what had aroused the same emotions; he was pained as a young child by the frost killing the early flowers of spring, and as a man he grieved in the same way over the death of children taken by Death's untimely hand. The fawning spaniels disgusted him as

a boy and the flatterer as a man; consequently the flatterer's behaviour was described as fawning. The moral of this surely is that if children and grown-ups are to be taught to make effective use of images in writing they must be led not only to think clearly but also to feel rightly about these subjects. Homer thought and felt; many of his imitators are apt only to think. We shall be wise, therefore, to distinguish between the decorative and the illuminative uses of the simile.

10. ANALOGY PROPER

The term *analogy* was first employed to describe the resemblance of mathematical relations. Thus, in the 'schools' of Greece, such an analogy as $3 : 6 :: 6 : 12$ was the first kind spoken of. In the *Gorgias* Plato makes Socrates say, "I am writing to put it to you like a geometer—as self-adornment is to gymnastic, so is sophistry to legislation; and as cookery is to medicine, so is rhetoric to politics." This latter kind of analogy, qualitative instead of quantitative, has been much used of late by the mental test makers.

The analogies test, as such, was first devised by Dr Cyril Burt and proved so successful that most series of intelligence tests for group use contain a number of 'analogies.' In the verbal form usually met with there are two terms given which stand in a certain relation to one another. A third term is also given which stands in a similar relation to one of four other terms, and from these four the correct term has to be selected.

Thus, we may read that *up* is to *down* as *ceiling* is to (*roof, high, floor, wall*) and be asked to underline the word in brackets which bears the same relation to *ceiling* as *down* bears to *up*. The word required is, of course, *floor*. But the words *roof, high, floor, and walls* have all at some time or other been associated with *ceiling*, and what the child has to do is to withstand the suggestion that the word which has the strongest association in his mind with *ceiling* must be the correct choice for the purpose of the test.

For a long time in the child's life there is nothing approaching a logical analysis of associations of various kinds. One type of association alone is apt to occur and recur—*viz.*, the most impressive or the most powerful one. It is, however, interesting to note that one of the first results of the effort at an analysis of one's various associations is that of recognizing logical 'opposites.' But even the idea of opposition between ideas develops slowly. This will become apparent if young children are asked to write down as many pairs of opposites as they can think of. Such pairs as *man, woman; frog, toad; pen, pencil; red, blue; door, window;*

me, you, etc., will be commonly quoted as opposites by children below the age of eleven years.

As the child develops he finds it possible to achieve a better classification of his associations. Though he may not know how to describe his felt distinctions, he learns to recognize associations of the nature of *genus, species; part, whole; contiguity in time or in space; contrast*; etc. But to expect any considerable development of feeling for such classifications as these among junior school children is a vain thing. The fact, nevertheless, that the brighter children of ten years of age can work an analogies test with a great deal of success proves that they have begun to sort out and classify many of their simple ideas.

The average scores at the age of $10\frac{1}{2}$ and $10\frac{3}{4}$ in London schools for an analogies test of a hundred questions were as follows:

AGE	SCORE	S.D.
$10-10\frac{1}{2}$. .	45.7	7.3
$10\frac{1}{2}-11$. .	52.6	7.9

II. ANALOGY AS AN EXPLANATORY AID

It is interesting to note in passing that analogy was once considered to be a useful instrument of explanation. Thinking in myths was the type of thinking most favoured by the classical writers of old.

What the Greek investigators understood by the explanation of a given phenomenon was not so much the analysis and resolution of this phenomenon into its elementary parts, or the determination of the laws of its production, as its approximation to or identification with other more common or more familiar phenomena.¹

To-day, it may perhaps be said, analogy is mainly used for illustrative purposes. "To illustrate one thing by its resemblance to another," said Dr Johnson,²

has always been the most popular and efficacious art of instruction. There is indeed no other method of teaching that of which any one is ignorant but by means of something already known; and a mind so enlarged by contemplation and inquiry that it has always many matters in view, will seldom be long without some near and familiar image through which an easy transition may be made to truths more distant and obscure.

¹ Vailati, as quoted by Rignano, in *The Psychology of Reasoning*, p. 114.

² *The Idler*, No. 34 (1758).

It must, however, be remembered that analogy has its weakness as an instrument of illustration where young and immature pupils are concerned. Though it may serve to illustrate, it cannot be depended on to demonstrate. The vividder and more pointed its illustrative effect the more likely is its real purpose to be forgotten. The headmistress who, as reported in the public Press, ordered some of her pupils, found guilty of using foul language, to wash out their mouths with a disinfectant may have effectually achieved her moral purpose, but her method was not calculated to make the distinction between the mental and the physical any clearer.

An interesting example of the failure of an analogy to explain what it was intended merely to illustrate may be permitted. One day during a lesson on Heat a teacher of eleven-year-old boys illustrated the difference between convection and conduction in the following manner. Suppose, he said, a farmhouse caught fire, and the only water available for extinguishing it was in a pond near by. The farm servants might in that case either (a) run individually to the pond and back again with buckets as often as they could and throw the contents over the fire, or (b) form a line and pass buckets continually from hand to hand. In the former case the bucketfuls of water would move towards the farm independently, as particles in a convective current; in the latter case they would move along the same fixed path, as in conduction. When the boys were tested later by means of the question, "What do we understand by *convection* and *conduction*?" a quite considerable number began their answers in some such manner as this: "Convection and conduction are different ways of putting out a farmhouse fire."

12. REASONING BY ANALOGY

It is by analogy that children of this age usually 'reason' when they begin to think closely about things; that is, they jump from one idea to another by a kind of intuition of resemblances.¹ Primitive peoples and immature adults to-day reason in the same way. They eat meat rather than vegetables, because animals are so 'strong'.

The process is, of course, irrational and illogical; it is neither *induction* nor *deduction*. It is what Stern calls *transduction*, meaning

¹ "The literary artist proceeds by a kind of speculative thought which differs from the speculative thought of the philosopher by its working from particular to particular. The creative literary artist does not generalize, or rather, his generalization is not abstract. However much he may think, his attitude to life is predominantly emotional; his thought partakes much more of the nature of residual emotions, which are symbolized in the objects that aroused them, than of discursive reasoning."—J. M. Murry, *The Problem of Style* (Oxford, 1922), p. 26

just no more than inference from one particular to another. Such a process is safe enough for the experienced student who knows how to employ his checks and safeguards, and often safe enough for the child in the realm of mathematics, where he frequently must deal with things of exactly the same value; but, employed by the child in the interpretation of the real world, it leads to all sorts of errors. Obviously we must not reprove children for employing the same method of thinking as was responsible for a great many scientific discoveries; for example, the law of inertia by Galileo and the law of gravitation by Newton. Yet there is need of guiding them past the pitfalls they are likely to encounter.

Errors of inference in reasoning from analogy chiefly arise through pressing the analogy too closely in any case so that additional parallels are sought where true ones cannot be found. Thus, an analogy may serve to suggest or illuminate but not to demonstrate. In the analogy quoted earlier between the girl at the black and white piano keys and the queen with her black and white subjects the likeness is not close enough to warrant anyone concluding that because in one case the subjects have to be struck before they respond therefore in the other case it is equally true that force must be used to secure obedience. When we argue from analogy there is a danger of our making unwarranted inferences of this kind. The value of an analogy is that it *suggests* the existence of parallels where we have not perhaps suspected them: they provide us with an hypothesis which must, however, be tested farther before we can safely draw any conclusions.

Resemblances noted in this manner, then, must be scrutinized closely. It is only through a thorough realization of the fact that mistakes may be made by trusting too blindly to analogy that any efficient use of the reasoning powers is ensured.

13. MATHEMATICAL REASONING

A real respect for correct reasoning may be inculcated through work in mathematics, but we must remember that mathematical reasoning when applied to life-situations is to be distinguished from other kinds of reasoning only in being more securely based on experience. In mathematical reasoning of the perfect type we move in a world remote from the real world and deal neither with particulars (*e.g.*, particular fishes differing from one another in endless ways as well as resembling one another in their fishiness) nor with stereotyped generalized images (*e.g.*, the triangle which can always stand for every conceivable triangle), but with

concepts rigidly defined. Reasoning becomes abstract in such circumstances and resolves itself into the correct application of settled rules of procedure. Of course, the symbols employed in arithmetic and algebra have this advantage that they enable the child to perform in thought operations which at one time had to be done with materials. In geometry, however, there is still the danger that we may argue inaccurately from the data given in a particular figure erroneously supposed to be typical in some respect or other of all such figures. Accordingly, the ability of children to do a great deal of advanced work in arithmetic and algebra must not blind us to the fact that they may still need training in reasoning about geometrical figures and about concrete facts and their relations to one another.

The defect of so much of our work in this sphere is that we lead children too much by the nose; in other words, if they are to find their way from *a* to *z* we think it enough if we show them how to take each step on the way—*i.e.*, from *a* to *b*, from *b* to *c*, and so on. What we rarely give them practice in is in stating a problem clearly and in discovering the steps towards its solution for themselves.

It must be confessed, however, that teaching along the lines suggested is to be found as yet in very few senior schools: it calls for a type of teaching ability that may rarely be at our disposal.

14. THE PHYSICAL AND THE PSYCHICAL

We have already drawn attention to the common practice of describing the non-physical in terms of the physical. The resemblances which may be found between the facts of the one world and those of the other have been the frequent subject of comment. There is a much more exact correspondence between the natural and the moral worlds than we are apt to take notice of, said the author of the *Analogy of Religion* in the eighteenth century.¹ And every one knows how he proceeded to infer the existence of resemblances in particulars where they could not, strictly speaking, be proved, and where modern science could hardly support him. But if we are wise enough to take analogies for what they are worth and to use them with respect and caution we may find them extremely useful. Judged, for example, as simply suggestive and not as an effort at exact description, the following sentence is strikingly expressive of a truth which without using some figure of speech it would be difficult to put into a more vivid form.

¹ Bishop Butler, Sermon VI (Oxford, Clarendon Press, 1897). It has been pointed out by more than one writer that Mrs Gatty's *Parables from Nature*, written for children, make one of the best arguments from analogy since Butler.

"The spiritual life," says a modern writer, "is not lived upon the heavenly hearth-rug within safe distance from the Fire of love."¹ It is a common Eastern device to make use of the analogy between the physical and the psychical; and it is a device which gives vividness and point to ideas that otherwise would be imperfectly understood or grasped by the ordinary mind.

But the idea that great thinkers and writers set out to find clever analogies and express them in 'beautiful' words rather than to say in metaphor what could not be said otherwise is monstrous.

In passing, it is worth while observing that children may often be given their first glimpse of the parallelism between the phenomena of body and mind through riddles. Riddles have been described as "roundabout definitions of . . . the hearers have to guess *what*."² Every adult, for example, knows the answer to the riddle, "What is it walks on four legs in the morning, two legs at noon, and three legs in the evening?" Here we have a parallelism between babyhood, manhood, and old age on the one hand, and morning, noon, and evening of an ordinary day on the other. The ability to understand such a riddle does not mean an ability to deal with other riddles of the same kind, but familiarity with many such riddles does eventually lead to the development of a feeling that the physical and the psychical are in some way not unlike.

15. FABLES AND PARABLES

Some of the commonest and most familiar of analogies are contained in fables and allegories. Fables are of two kinds: there is the parable, and there is the apologue. Examples of good moral fables or apologues are to be found in Æsop, but there is a striking example of earlier date, known as Jotham's parable, in the Book of Judges (ix, 7-15) of the trees choosing one of their number as a king to rule over them. The fable of the belly and its members to be found in Livy (II) is also well known. Parables of the type most familiar to us are those found in the Gospels, the Parable of the Sower being a striking example. The apologue, or moral fable, and the parable are alike in having a second meaning in addition to the literal meaning, but they differ as a rule in three important particulars: in the first place the characters in the moral fable are taken from the sub-human worlds, but they act as though human; while those of the

¹ E. Underhill, *op. cit.*

² "It has been the policy of all times to deliver down important subjects by Emblem and Riddle."—SWIFT.

parable are usually human and act humanly or if they are sub-human they do not transgress the laws of their kind. In the second place the purpose of the moral fable is directly practical, whereas that of the parable is mainly illustrative or interpretive—*i.e.*, it aims at spiritual enlightenment. In the third place it has been observed more than once that the resemblances between beasts and human beings are as a rule in qualities which belong to our lower nature; pride, cunning, insolence, and the like. When we wish to disparage human motives we instinctively turn to the moral fable. A brilliant example of a modern fable is Mr Winston Churchill's Disarmament Fable, quoted at a League of Nations meeting at Geneva. "Once upon a time," he is reported to have said,

the lion, the tiger, the eagle, the bull, and the bear met and agreed to disarm. The lion, with his eyes on the eagle, said, "We must abolish wings." The eagle, glancing at the bull, declared that horns must be done away with. The bull, turning to the tiger, urged that claws should be abolished. Then the bear closed the debate with the words, "Let us abolish all these things, so that I may take everybody into my loving embrace."¹

16. PARABLES AND ALLEGORIES

The *allegory* is an analogy of a sustained nature (appealing to the imagination rather than to the reason) in which the parallelism between the physical and the psychical is worked out in considerable detail. Nathan's parable of the ewe lamb in the Second Book of Samuel (chapter xii) is rather an allegory than a parable. Plato's allegory of the soul and the two horses in the *Phaedrus* is rather more of a parable. It is interesting to note that the reason for casting one's meaning in the form of a fable or parable may vary according to circumstances. It has been said that the fable was chosen by Æsop because, as a slave, he found it dangerous to say openly what he thought.

This may seem plausible enough to the reader, but we must remember that the fables of Æsop for the most part deal with the ordinary situations of life rather than situations calling for the prudence peculiarly necessary to slaves—*e.g.*, that typified in the story of the bronze pot and the copper pot. It is a big question as to how far many of the stories in the Bible are allegorical—*e.g.*, that of the Garden of Eden—but undisputed allegories are those of the Prodigal Son and of the Twenty-third Psalm. In secular literature the *Faerie Queene*, "The Vision of

¹ The fable in full will be found in *Arms and the Covenant* (London, Harrap, 1938), p. 17.

Mirza" in *The Spectator*, and *Gulliver's Travels* are well-known instances.

17. PROVERBIAL SPEECH

The germs of the fable, the parable, and the allegory are to be found in that type of metaphor to which we must now give some attention. It is the fourth type, spoken of earlier on as *proverbial identification*. A proverb may very well be regarded as a fable condensed into a single sentence.

From the earliest times men and women in their more lucid moments have noticed that many of the concrete things and common processes on which their attention has been centred are in certain indefinable ways similar to some of the equally common but also the more abstract and intangible facts of their experience. As a result they have often employed the concrete thing or process as a type of the more general phenomenon in experience. Most of these 'discoveries' have arisen in reflection upon the nature and details of daily occupations, and our language to-day is full of metaphors based on the experiences of farmers, doctors, sailors, artisans, traders, or housewives. To quote a recent example, Mr Beard, of the Transport Workers' Union, made use of a metaphor in his presidential address to the Trade Union Congress in 1930 that could only have arisen in reflection out of a thorough familiarity with his professional work. "What we have to do," he said, "is to build the road to Socialism without holding up the traffic." A fusion of two strong lines of interest appears to be necessary if metaphor is to come into being, a fusion which brings ideas from separate fields into interactivity so that the possibility of one being used on occasion for the other is a real and an easy possibility. It marks a great step forward in the history of the race and of the child when certain forms of speech can be employed outside the sphere of their literal application. But not every child, even at the age of eleven or more, can see anything but a plain literal meaning in such statements as "A stitch in time saves nine"; "You cannot make a silk purse out of a sow's ear"; or "Make hay while the sun shines." In a junior scholarship examination held in 1931 the competing candidates, whose ages ranged round ten and a half, took advantage of the opportunity of writing a short English composition on "Half a loaf is better than no bread." Only a minority of those who accepted the offer would appear to have grasped the wider implications of the statement. It is interesting to note, then, that below the age of eleven it is unusual to find children with any real grasp of such metaphorical language. To tell them that Glasgow lies in the busy heart of Scotland, or that Scarborough

is the Queen of Watering-places, or that Gibraltar is the key of the Mediterranean, or that Egypt is the gift of the Nile, is largely futile.

But if our view of the original purpose of metaphor is correct why is it that children, who are usually thought to be like primitives in so much of their behaviour, find metaphor difficult to understand? The answer is that most of the metaphors we employ are used to describe features of life and experience with which children are relatively unfamiliar. Moreover, until children begin to see that metaphor is in certain circumstances indispensable for the purposes of expression they must of necessity remain literalists. For this reason they read the Twenty-third Psalm, *The Pilgrim's Progress*, and *Gulliver's Travels* without any genuine appreciation of their underlying meaning.

18. A PROVERBS AND IDIOMS TEST

To test this view children of eleven and upward were given fifty proverbs and idiomatic phrases¹ and asked to match each one of them with one out of the four literal statements that followed. Two of the questions are here quoted:

11. *There's many a slip 'twixt cup and lip.*

- (a) Before you talk about your prize make sure you have it.
- (b) Children often let their cups fall while drinking.
- (c) It is easy to lose what we have won.
- (d) Very few people *never* make a mistake

12. *A bird in the hand is worth two in the bush.*

- (a) Ten pounds in your pocket is worth twenty pounds in the bank.
- (b) Birds close at hand look better than at a distance.
- (c) Better to live in a cottage than in a mansion
- (d) A little which you are sure of is better than a lot which you may never get.

The average number of correct answers for each age up to fourteen was as follows:

Age	Boys			Girls		
	Number Tested	Average Score	Standard Deviation	Number Tested	Average Score	Standard Deviation
11-12 years	352	16.1	6.5	254	17.1	8.4
12-13 years	356	20.4	8.5	256	21.7	8.8
13-14 years	365	23.9	9.4	251	27.1	9.0

¹ See Appendices, p. 336.

It is interesting to note that, whereas in the Vocabulary Tests already referred to¹ the scores of boys were found to be higher as a rule than those of the girls, in this test the position was reversed.

Whether a child will do this test well or not would seem to depend upon his age and his experience. If he is too young he will not appreciate the fact that a proverb has a reference to things outside the range of its literal application. And even if he is old enough to realize this he is likely to be slower than other children in gathering its wider implications when he does not hear plenty of good idiomatic talk at school and at home. It was found that reasonably clever boys of eleven from poor districts did so badly as to make the test a poor one to estimate their intelligence by. But older boys and girls were able to show considerably more of their intelligence in their attempt to do the test. The average correlations of the scores in an intelligence test with those in this proverbs and idioms test, together with the average probable errors, obtained in eight well-taught schools in fairly good working-class districts were: 0.54 + .068 at 11-12 years; 0.62 + .080 at 12-13 years; and 0.69 + .087 at 13-14 years.

19. ANALYSIS OF RESULTS

An analysis of the errors most commonly made by the children showed clearly that when they were in doubt or ignorant of the meaning of a proverb what they did was to select the sentence with the apparently literal meaning. Thus, sentence 11 (*b*) and 12 (*a*) in the examples quoted above were as often selected by the younger children as the correct sentences.

In seeking to select what they regarded as the literal meaning of a proverb the children seemed to look first for a sentence containing some striking word which they remembered from the corresponding proverb. Thus, 18 (*b*) was frequently but wrongly chosen on account of the word "poisoned" in it, the word "poison" having been used in the proverb to be matched.

The weaker children were also apt to go wrong when a proverb called out a strong interest or emotion. For example, in interpreting "Necessity is the mother of invention," a great many girls were misled into matching it with "Necessity is like a mother, fond of looking after invention, her child," owing no doubt to their mothering interest having been aroused. On the other hand those boys with a strong cupboard love were misled into matching it with "What a child needs it usually asks its mother for."

¹ See p. 54.

Another type of error, found more particularly among the brighter and older children, arose possibly out of their desire to please. They must have thought that an examiner would have highly moral intentions in setting such a test, and when in doubt they often wrote out whatever sounded like a copy-book maxim. Thus, they were apt to decide that "You should be careful how you sweep the floor" meant the same as "You are throwing dust in my eyes"; and that "Waste not want not" meant the same as "Enough is as good as a feast." Often a moral truism which has been dinned into children's ears will reappear in the wrong place among the answers. It would seem that the average child is too young to appreciate ideas that come to him with no other recommendation than their logical suitability.

It may be worth while recording that suspicion of the banking system still appears to flourish among the poorer classes, for quite a large number of children chose as the meaning of "A bird in the hand is worth two in the bush" the sentence "Ten pounds in your pocket is worth twenty pounds in the bank."

20. CONCLUSION

When dealing with the commoner types of analogy we noted their value as illustrative aids, but spoke of the danger of trusting to them too blindly for help in reasoning. Thus, a young reviewer is reported to have said, "No one need drink a cask of wine to sample a vintage," and to have received the reply from his editor, "Quite so, yet one can't value a house by peeping into the dining-room window. You had better see what the house-surveyors have to say." Proverbs have the same shortcomings. They sum up certain types of experience perfectly, but as analogies they cannot be safely applied outside their proper field of reference. Indeed, for almost every proverb that any one person quotes another may be brought forward that seems to contradict it. For instance, it is true that "Too many cooks spoil the broth," but it is also true that "Many hands make light work." "A bird in the hand may be worth two in the bush," but "Nothing venture, nothing have." As soon as we begin to pair and oppose proverbs in this way we begin to see that their reference is not indeed so general as we thought. Qualifications begin to be called for. The fact, of course, is that proverbs state a rough and ready judgment about life. They provide a foot-rule by which we can measure many of our experiences. Originated by the shrewd in past ages, they are pooled by the people to form a stock of common wisdom. They rise to our lips (though not to

the lips of so many of us as formerly) whenever something occurs that makes a deep impression or calls for philosophic judgment at the homely level. Mrs Poyser, in *Adam Bede*, and Sam Weller, in *The Pickwick Papers*, represent this tendency in a memorable manner. Thus, the proverb enables us to take a step upward out of the chaos of unanalysed experience towards the plane of philosophic truth where the contradictions of our human experience are harmonized or disappear.

CHAPTER IX

LANGUAGE AND FEELING

I. THE NATURE OF FEELING

Feeling, the term used originally for the impression received through the sense of touch and applied later to the quality common to all sense impressions, is now the recognized psychological term for the aspect of pleasantness or unpleasantness in all our experience, whether the stimulus that arouses it be of external or internal origin. Feeling, in short, is that aspect of experience which is conveniently thought of as distinct from thinking and striving.

In their simple and uncomplicated form our feelings are now held to be unanalysable into anything more elementary than pleasure and its opposite. Such simple feelings have, however, been further classified as either tied to sense-impressions or free.¹ Examples of free feelings are to be found in (a) the state of pleasurable well-being which all healthy human beings are aware of when things are going well with them and (b) the less pleasant moods of varying intensity to which we are all subject from time to time when, no doubt, physiological functioning is imperfect. Examples of feelings which are tied to sense-impressions are those expressed in such exclamations as "What a gorgeous sunset!" or "Isn't this scent delightful!"

But feeling may also be bound up with our more active impulses, as, for instance, in our behaviour when an instinctive tendency within us is denied expression. Our simple feelings then become complicated by association with certain organic disturbances and are experienced in the form of what we call emotions. Fear and anger are obvious examples of emotional states which appear on the thwarting of natural impulse; except in such circumstances they are not observed to occur. Feeling may be bound up, moreover, not only with our thwarted instinctive impulses but also with certain types of idea which have the quality of endurance because of the value to us of what they stand for. Such feelings, fused with both instinctive tendencies and with enduring ideas, we call sentiments: for example, the sentiments connected with cherished ideas such as are centred round one's home, one's possessions, one's friends, or one's country.

Again, at certain levels of civilization feelings may become

¹ See J. C. Flugel, "The Psychology of Feeling," in *Encyclopædia Britannica*, 14th edition (1926).

still further complicated by associations not only with instinctive impulses and with cherished ideas, but also by association with values which are regarded as completely impersonal. At this stage we see the emergence of the highest ideals, or as we sometimes call them, the supreme values; for example, those of beauty, truth, and goodness.

2. FORMS OF THE EXPRESSION OF FEELING

It is natural to look for a development in the expression of feeling during childhood as well as in its direction and refinement. This development in expression may be illustrated if we take as an example the emotion we know as anger. Every one must have observed how the uncontrolled outbursts of temper ("temper-tantrums") which are characteristic of children in infancy gradually give place as they grow older to controlled forms of expression. At first the infant who is roused to anger may blindly vent his resentment on any person or object within reach, or struggle or hold his breath or throw himself on the floor. In course of time, however, less irrational forms of behaviour follow upon the thwarting of natural impulse. "As age increases," says Miss F. L. Goodenough in a careful study of this subject,¹

primitive bodily responses are replaced by substitute reactions, commonly of a less violent and more symbolic character. With the beginning of speech, verbal rejoinders, used, at least in part, for some of the more overt motor expressions of anger, become increasingly prevalent.

From statistics quoted by Miss Goodenough it is clear that whereas up to the age of about two and a half or three there is a steady increase in crying, screaming, and making angry noises of various kinds as a method of showing resentment at the thwarting of natural impulse, such expressions of feeling as these begin steadily to decline in number and frequency as soon as the capacity for self-expression in language appears, and then a gradual increase in language-reactions themselves appears.

Further emphasis will not be necessary to make it quite clear that for showing resentment or for securing one's ends, no matter what they are, language may become a much more effective instrument than the crude display of rage. Those who can express their feelings concisely and unmistakably in words give way much less often to the more clumsy physical forms of anger. The same children who give way in infancy to outbursts of violent temper sooner or later learn that words may be more deadly

¹ F. L. Goodenough, *Anger in Young Children* (Minneapolis, University of Minnesota Press, 1931).

than blows, that sarcasm may express their contempt more effectively than a mere curl of the lip, and that invective is a superior weapon to physical violence, just as pride may be expressed more suggestively by one's words than in giving oneself airs, or just as social good-feeling may be less embarrassing to one's acquaintances when conveyed through compliments than when shown in hugs and caresses. It is in this way that language in its development has enabled us, if not to feel less deeply in some directions, at least to express what we feel with less crudity but greater effect.

3. THE DEVELOPMENT OF THE SENTIMENTS IN EARLY LIFE

The young child forms and develops his first sentiments in relation to those objects and persons in his immediate environment that are sources for him of repeated pleasure and satisfaction or of dissatisfaction and pain. These objects and persons, being regarded with either standing desire or aversion, generate the sentiments of love or hate. On the basis of these two powerful sentiments all the more sophisticated sentiments and values of later life are built up. Now, a good deal of the preliminary scaffolding as well as of the essential structure of these later sentiments is linguistic. We have only to think of some of them—for example, the sentiment of fair play—to realize at once how much they depend for their fortification and permanence upon constant verbal reference—in books, newspapers, and everyday speech—to their personal value and social importance.

For the healthy growth of such sentiments in young children the first requirement would seem to be an abundance and variety of experience, shared frequently and discussed freely with persons whose enthusiasms and interests are capable of kindling the same kind of feeling in others. In this way emotionalized habits of thought and standards of conduct are shaped, which in their turn shape all future experience. Here, again, it will be noted that intercourse with others during which the spark of a fresh interest may be nursed into a continuous flame is well-nigh impossible in the absence of speech. Comments on current experience, vividly phrased, have the power to invigorate each newly formed sentiment. This is one of the justifications for the inclusion of biography, history, and literature in every school curriculum; they ensure the crystallization of so many types of useful experience in durable form. Most modern boys and girls have had their sympathies quickened and enlarged by reading such books as *Black Beauty*, *Uncle Tom's Cabin*, *Parables from Nature*, and *Oliver Twist*, with the result that a warm interest has grown

up in the horse, the negro, the humbler creatures of the countryside, and neglected children. History has also provided for all of us, in varying measure, a rich store of thrilling stories of men and women who have been willing to live and die for noble causes, and the songs, poems, and legends in which their deeds are for ever enshrined are likely to affect the young child more powerfully, perhaps, than the life that goes on around him. Thus are sentiments nourished and fed from feelings that might otherwise disappear with the passing moment; thus are the powers and virtues which appeal to boys and girls at different ages given an unforgettable setting. In short, the idea of the self as possessing, for example, physical strength, or athletic prowess, or courage, or endurance, or loyalty, or self-reliance, or perseverance, or honour, or chivalry, or magnanimity, or self-denial, or self-sacrifice may seldom be brought into sharp focus in actual life, so that these are seen as lovely and desirable qualities only in association with story, verse, or song.

4. THE SOCIAL SENTIMENTS

The effects of a full life and a good education are to be seen not only in the development of personal character but also in the improvement of the culture of the community at large.

The sentiments or ideals, for example, of social justice, of toleration, and of healthy civic pride, though they have their roots in unreflecting feeling, do not find their full growth and perfect flowering in the absence of the language by which their value is fertilized and kept fresh. The great religions, too, responsible for so many of the higher sentiments and ideals in so far as they have created new ways of life and thought, have done so primarily through a gospel—*i.e.*, a message expressed verbally. No doubt, too, the humanitarian feelings which brought about the abolition of the slave traffic existed in some form or other throughout history, but it was the spread of the ideas of Voltaire, Rousseau, and the leaders of the French Revolution by pamphlet and discussion, the teaching of John Woolman, John Wesley, Thomas Paine, and their successors, and the oratory of Wilberforce and Clarkson that made them finally triumphant in this country. The feelings also to which we owe the humanitarian legislation of the nineteenth century, and in consequence, the great improvement in our national health, our factory life, our education and amusements, were given volume and energy through the efforts of men and women skilled in exposition and persuasion in pulpit, Parliament, and Press. In brief, it is mainly through language that the intuitions of enlightened leaders

become the general property of the rest of us, and through language that they are made urgent enough to modify our common way of living. Perhaps Shelley has said the last word on this subject in his *Defence of Poetry*:

It exceeds all imagination to conceive what would have been the moral condition of the world if neither Dante, Petrarch, Boccaccio, Chaucer, Calderon, Bacon, nor Milton had ever existed; . . . if the Hebrew poetry had never been translated; if a revival of the study of Greek literature had never taken place; . . . and if the poetry of the religion of the ancient world had been extinguished together with its belief

In passing, we may perhaps mention the part played by language in the development of humour, which, regarded as feeling, may be defined as the state of mind that accompanies "the playful and indulgent treatment of the absurd, incongruous, and ludicrous." Small children and adults enjoy the kind of situation in which actions speak louder than words; they enjoy the sudden or unexpected downfall of the pompous and the inability of the great to deal with the ordinary emergencies of life. But as we grow older and more mature what we laugh at tends increasingly to have a linguistic element in it. The ordinary situations of life may yield us all too few chances for fun, and we have recourse to stories—about mothers-in-law, about henpecked husbands, the absurd unworldliness of fond lovers, cheap motor-cars, anglers' catches, and so on. In every case the fun is a manufactured article: the story is made humorous by the storyteller's wit and art.

It is worth mentioning, too, that language has an important part to play in keeping social intercourse free from undue strain. The point has been well made by Professor T. H. Pear. In *Nature* (May 2, 1942) we read:

Professor Pear went on to discuss social differences as shown by language. Each class uses characteristic terms of approval, disapproval, endearment, enthusiasm, and boredom, and each disapproves or ridicules the choice of others . . . Of the learnt phrases which especially indicate social status, the emollient group are the most striking. They are used to begin, interrupt, or end a conversation, to refuse or decline a request, suggestion, or invitation, to correct a mis-statement, to oppose a proposition without rancour, to adduce incontrovertible if unwelcome evidence, to accost a shy person, or reprove a backslider.

5. THE EMOTIONAL TONE OF WORDS

Now, just as images of impressions registered through the activity of the sense-organs linger in the mind long after the

stimulus that caused them has ceased to operate, so images of our past feelings slumber in quiescence within us; and both are subject to lively recall on the occasion of a suitably linguistic cue. Moreover, we may day-dream in terms of each or both of them—indulge, that is, in sentimentalism—or we may make them serve a master-purpose to which we have devoted our energy and faith.

It has always been realized that words vary a great deal in their capacity to evoke feeling. A good many convey little besides their plainer meanings; others are subtly charged with definite even if indefinable emotional tone. It is the latter type of word which the skilled advocate, the propagandist, the prophet, and the poet know so well how to employ. Thus, there are words which we have so often heard in circumstances where feeling has run high that we have become unable to regard them with complete detachment; they are trigger-words that never fail to have an explosive effect upon the sentiments connected with them. There are also words that some of us may hesitate to use freely and lightly in ordinary conversations simply because of the sacredness of their associations. Others, again, we may be ashamed to utter because they are regarded as 'bad' words that have the power, as we think, to pollute the lips of those who utter them. Others there are which we habitually avoid, because we should feel socially inferior if we permitted ourselves to employ them. For one reason or another certain words are regarded with respect, with fear, or with taboo.

Whether the average man or woman can ever get clear of his emotional entanglements and take a purely rational view of words is extremely doubtful. Professor Einstein has recently declared that it would be a good thing if such emotionally charged words as 'honour' and 'patriotism' could be eradicated altogether from human speech, since it is impossible to think coolly and logically when they are being employed. But we cannot cast off our spiritual heritage so easily; neither is it entirely desirable. For example, who can gainsay that by reason of our early education and upbringing, during which we were fed upon a literature dealing with natural objects in a rural setting, we are unable to think without sympathy of the occupations that bring men and women into intimate touch with the life of the countryside? We shall always regard the work of the shepherd with tender feeling, if only because we have in our childhood read, sung, and learned by heart the Twenty-third Psalm, and become acquainted with a good deal of the simpler pastoral poetry.

To each attempt to reconstruct a new secular city of metaphor and legend the words themselves are traitors. We use them to build

up walls against old symbols, but every unsuspected noun or verb lets in a host of intruding memories. We speak of a Cup, and in our memory the cup is taken, blessed, and drunk in remembrance of the Son of Man; there are jewels that never lose a brightness borrowed from the light of the Holy Jerusalem. . . . Swords, reeds, and dragons, a sponge of vinegar . . . temples and thrones . . . the lilies of the field, these are not, cannot be solitary words until we have quite forgotten the Bible.¹

Such emotionally charged language forms the enduring fabric out of which our common life is constructed: it provides both the cement and the body of the structure that shelters us from what otherwise would be an intolerable and barbaric world.

6. A CLASSIFICATION OF WORDS IN TERMS OF THEIR FEELING TONE

In view of what has so far been said we shall readily understand how the enormous vocabulary of the English language has enabled our great writers to select their words so that these not only express their ideas with a high degree of logical precision, but also indicate clearly the author's attitude both to his subject and to those for whom he was writing. A classification of words and phrases in terms of their feeling tone will make this point plain. Here, for example, is an attempt at such a classification:

I. NEUTRAL TERMS

- (1) Names of common things, actions, and states: *knife, clock, touch, observe, wet.*
- (2) Technical terms: *accumulator, tangent, kilowatt, Aertex, Sanatogen.*
- (3) Names for collections of things: *groceries, sports and pastimes, the British Isles.*
- (4) Abstract terms and concepts: *metaphysics, thought, geology, hygiene.*
- (5) Vague terms: *thing, affair, business, case.*

Language which is composed wholly of neutral terms is admirably suited for scientific exposition and logical reasoning. There is a danger, however, that abstract terms and concepts may be taken to stand for 'real' things, instead of as labels for the common feature of a great number of more or less dissimilar things.

II. ELEVATED TERMS

- (1) Formal terms: *madam, sire.*
- (2) Euphemisms: *paying guests, the deceased.*
- (3) Poeticisms: *beauteous, roseate, o'er.*

¹ W. Holtby, in *The Realist* (London, 1927).

- (4) Genteelisms: *lady dog, expectorate.*
- (5) Archaicisms: *albeit, whilom, quotha.*
- (6) Alienisms: *quattrocento, chiaroscuro.*
- (7) Vogue words: *intriguing, meticulous.*
- (8) Romanticisms: *sublime, eternal, absolute, for ever.*
- (9) Dignified terms: *edifice, emolument.*

Language which abounds in elevated terms will undoubtedly dignify a worthy theme, though the danger is to be guarded against of assuming that plain things are other than plain. Moreover, the facile use of such language may merely cloak a desire to be thought superior to ordinary folk.

III. DEBASED TERMS

- (1) Vulgarisms: *blimey, crikey, jitters.*
- (2) Stump words: *bike, pub, Liz, prep.*
- (3) Trade names: *Snofrute, Phiteezi.*
- (4) Babyisms: *daddy, dolly, undies, panties, woollies.*
- (5) Make-do's: *thingumabob, what-d'you-call-it.*
- (6) Facetious terms: *skedaddle, spifflicate.*
- (7) Emphaticisms: *frightfully, awfully, beastly, utterly.*

Language which abounds in debased terms, whatever the occasion, clearly indicates a mind that is unused to dwelling on any but the lowest levels of taste and refinement.

7. STOCK PHRASES IN COMMON USE

Many good words and phrases soon become soiled by constant and careless handling when made the stock-in-trade of the literary cheap-jack. The writers of popular songs, film scenarios, commercial advertisements, and literary best-sellers know only too well how to use the sort of language that is likely to secure a facile emotional response from unthinking people. Fortunately, to-day a great deal of the language of the Bible is unsuited to their purposes. Other sources have been found, however, and the poets and the novelists have been searched and made to yield up their treasured phrases for a baser use than they themselves dreamed of. To touch off the feelings of the masses nowadays our purveyors of emotionalized ideas have only to remember that millions of us live a more or less artificial life cut off from Nature, so that they need only learn to refer lightly and prettily to the simple life, the wander-thirst, the open road, the beloved vagabond, the roadside fire, the wind on the heath, the wraggle-taggle gipsies, the dawn on the mountains, the nightingale and the rose, sunset and evening star, moonlight on the river, where the rainbow ends, hills and the sea, sea fever, the far horizon,

ships that pass in the night, hands across the sea, East is East and West is West, the White Man's burden, the noble savage, lotus land, the earthly paradise, El Dorado, sunken gold, etc., or alternatively to harp on the old familiar themes verbalized in such phrases as the kettle on the hob, the cup that cheers, silver threads among the gold, Darby and Joan, true till death, tears, idle tears, the vacant chair, the prodigal's return, sonny boy, sweet seventeen, toddlers, ten little toes, home, sweet home, etc., *ad nauseam*.

In this kind of way the thousands of easily memorable phrases which the poets and the novelists have coined and put into circulation are now spent freely by popular writers in the effort to stir, win, and keep a semi-literate audience. Such phrases soon lose their shape and get shabby and fray out into clichés. It is true that familiarity with the popular authors serves to stabilize one's attitude towards many of the problems of life as well as to satisfy one's desire for that full life which few can lead. But the net effect may well be to stereotype the emotional life of those who respond to authors unthinkingly. It takes a writer of some force and originality to be convincing without these common tokens of emotional exchange, to ignore them altogether, and create his own tokens calls for the kind of genius that does not appear more than once in a generation.

8. LANGUAGE AND PSYCHOTHERAPY

The part played by language in the expression of feeling may be illustrated in another way. All the evidence from psychotherapy goes to show that any successful re-ordering of a disturbed emotional life is largely a matter of reconstruction through free discussion. Cures brought about in the absence of free discussion between doctor and patient, either by hypnosis or by pure abreaction (which is effected by getting the patient to revive and live over again the forgotten emotional experience responsible for his mental troubles), fail as a rule to be permanent. The practice of confession, though it would never be regarded as a form of abreaction, may nevertheless be looked upon as the most thoroughgoing kind of it, since, in addition to the mere reproduction of disturbing experiences, a new attitude is taken up towards them mainly as a result of sympathetic encouragement, largely expressed in words, followed by quiet reflection during which the problems involved are consciously faced and, as calmly as possible, reviewed. Certainly, the rational intelligence of the patient, which operates fully only in verbal discussion, cannot be ignored in the treatment of his mental troubles.

The better types of psychotherapy all take the form of establishing rational connexions between the repressed emotional experiences which have brought about the disturbed mental state and the rest of the mind. The psychotherapist—whether he calls himself psycho-analyst, psychological analyst, persuasionist, suggestionist, or merely physician—gets his patients to *talk* themselves into sanity. A further example is that of the well-known method of dream interpretation which consists of leading the patient to narrate his dreams, discuss the images that occur in them, and accept the psycho-analyst's account of their meaning. Jung's word-association technique, which was devised for the exploration of the more inaccessible regions of the mind, is again essentially linguistic.

In brief, the essence of effective psychotherapy is that likely causes of trouble in the patient's life are faced as impersonally as possible and freely and fully discussed. The mere adoption by the patient of a detached and objective attitude towards his experiences tends to make him less the sport of his impulses. He learns that in civilized communities the expression of purely primitive emotion, in view of the heavy price that may have to be paid for it, is almost impossible. He sees, accordingly, that repression of some kind is necessary, though it need not be of the kind that brings about mental disorder. His problem, though he will not always see it so clearly, is to discover how unorganized emotions and irrational trends in behaviour may become 'sublimated'—that is, put into the service of the sentiments which have power to express them cathartically. This sort of problem is never solved in dumb silence but by the consideration and application of the moral principles and ideals which are best expressed in words—*e.g.*, in maxims, proverbs, aphorisms, parables, fables, and allegories.

9. CATHARSIS

It is perhaps necessary to distinguish between sublimation and catharsis. A catharsis was a purge; cathartic tragedy purged the soul of its unwholesome emotions. Sublimation means refinement and has reference to the nobler forms in which the cruder emotions may be expressed. Catharsis differs, however, in meaning according to whether employed by the psycho-analyst or the writer on æsthetics. In the opinion of Freud and his followers the usual cause of a mental breakdown as it is revealed in hysterical symptoms or in an anxiety neurosis is to be sought in a pathological restriction of the flow of mental energy which has become centred too exclusively around certain

shameful ideas. These ideas have, in consequence of their incompatibility with the consciously approved ideas of the maturer self, escaped from the patient's control, but when in the process of abreaction they are once more brought to his notice, then the energy which has been 'bottled up,' so to speak, becomes liberated and automatically finds its discharge. This liberation of pathologically pent-up emotion is what the psycho-analysts look upon as catharsis (or psycho-catharsis). There is no reason, of course, why this catharsis should not be made a fully conscious process, taking place with the patient's full co-operation and sympathy. But the psycho-analysts appear to regard it as capable of producing its effects in a more or less mechanical manner—much as a laxative or a good cry produces relief—rather than as a consciously formed new resolve may produce relief when it braces one up morally and intellectually by re-integrating one's purposes and efforts.

In the ordinary non-pathological meaning of the word catharsis has now come to stand for the emotional relief and refreshment afforded by the practice (or contemplation) of art, especially of the art of tragedy. We owe the early use of the word, of course, to Aristotle, whose influence was responsible for its restriction for so many centuries to the purifying effects of a dramatic performance upon those who attended it either as actors or as spectators.

Comparing the psycho-analytic and the æsthetic uses of the term 'catharsis,' we may perhaps say that the difference is much the same as between mere recreation and *re-creation*. The true cathartic effect may be thought of as occurring through the actor or the spectator being enabled at one and the same time both to experience and rid himself of the tragic emotions vicariously and also to contemplate them ideally and impersonally, *sub specie æternitatis*.

10. THE CATHARTIC QUALITY OF GREAT LITERATURE

A question which naturally arises is, "What is the essential difference between the literature which has the higher cathartic quality and the literature which, while it certainly works upon the feelings, has no such genuine cathartic effect?" It is really the difference between abreaction and the true Aristotelian catharsis. Thus we may speak of abreactive and of cathartic literature, the difference between them now being clear.

The Italian philosopher Croce says¹:

The distinction between contemplated feeling and feeling enacted and endured is the source of the power, ascribed to art, of 'liberating

¹ B. Croce, "Aesthetics," in *Encyclopædia Britannica*, 14th edition (1926).

us from the passions' and 'calming' us (the power of catharsis), and of the subsequent condemnation from an æsthetic point of view of works of art, or parts of them, in which immediate feeling has a place or finds a vent.

Wordsworth tells us in his memorable preface to the second edition of *Lyrical Ballads* that:

all good poetry is the spontaneous overflow of powerful feelings, and though this be true, poems to which any value can be attached were never produced on any variety of subjects but by a man who, being possessed of more than usual organic sensibility, had also thought long and deeply.

Later in the preface he goes on to say:

I have said that poetry is the spontaneous overflow of powerful feelings: it takes its origin from emotion recollected in tranquillity; the emotion is contemplated till, by a species of reaction, the tranquillity gradually disappears, and an emotion, kindred to that which was before the subject of contemplation, is gradually produced, and does itself actually exist in the mind. In this mood successful composition generally begins, and in a mood similar to this it is carried on.¹

It should be noted that Wordsworth is speaking chiefly of the best types of lyric and reflective poetry produced by poets with a natural genius for their art, and of genius for this variety of poetry he writes in the essay supplementary to the Preface already quoted from, "the only infallible sign is the widening of the sphere of human sensibility, for the delight, honour, and benefit of human nature."

This being so, there will be found in all great literature a quality which enables those who study it to experience the emotions expressed and yet contemplate them as purged of their personal effects by the poet's own scale of values; to feel something of the delight, pity, or exaltation with which he is thrilled; to know the passions just as they are, but to know them for what they are worth; in short, to use the words of Matthew Arnold, "to see life steadily and see it whole." In other words, one characteristic of seeing life *sub specie æternitatis* is to see it interpreted or valued afresh for us by a master-mind.

II. PURE AND MIXED ÆSTHETIC FEELING

Most writers on æsthetic problems agree that whether we wish to experience the true Aristotelian catharsis or merely get an abreactive pleasure we must rise above a purely personal attitude

¹ *The Poetical Works of William Wordsworth*, Oxford edition (1917), pp 935, 940.

towards what is presented to us; they distinguish, that is to say, between pleasure enjoyed without reflection and the dispassionate contemplation which in suitable circumstances arouses the æsthetic feeling. A distinction should be made at this point between the pleasure one finds in form and that which one finds in content. It is the former which is usually regarded as the purely æsthetic pleasure. Consequently it may be denied—as, indeed, it has been—that children are capable of genuine æsthetic enjoyment, since, it is said, they cannot possibly take an impersonal and cool interest in anything beautiful. Pure æsthetic feeling depends on the power of the mind to ignore content and meaning and concentrate on relations of form and colour, a power which obviously is a late development and unusual in children.

On the other hand, the æsthetic feeling may be regarded as arising from pleasure in things for their own sake and not because of their practical consequences to those who enjoy them. In this sense all normal children experience æsthetic feeling. Certainly their delight in bright colours, in rhythmic movement, and in songs and rhymes is evidence of the existence in them of a feeling which is æsthetic if it is anything, though it may not be æsthetic feeling of the rarest kind; it is the root, at any rate, from which the genuine thing springs. Many people would think it undesirable and unnatural, too, that the growing child should seek to add the factor of impersonal contemplation to his simple enjoyments, for in adult life it is only those emotions which may enslave us and degrade us that need to be controlled and viewed dispassionately in the light of pure reason. As Stern rightly says:

Even in adults, especially when uneducated, a true and unmixed æsthetic feeling is comparatively rare. Complete detachment from the content, from a bias of any kind, from sympathy and antipathy—i.e., then, from all non-æsthetic factors—is, as a matter of fact, scarcely possible to simple human nature; and we ought not, from the point of view of a theoretical prejudice, to despise the attitude in which æsthetic appreciation is intermingled with appreciation of the subject under treatment. Although the little child practically never displays unmixed æsthetic feeling, yet it exists within him, and with more mature growth and appropriate, careful guidance, his pleasure in pictures, dances, songs, and stories will increasingly develop into the capacity of enjoying the purely æsthetic qualities which are offered in these forms.¹

We must, however, Stern goes on to say, be careful to prevent ourselves dragging the child away from his interest in the subject-

¹ W. Stern, *The Psychology of Early Childhood* (London, Allen and Unwin, 1930).

matter and attempting to thrust upon him the adult forms of æsthetic enjoyment which cannot yet, in view of his relative immaturity, be his.

This is obviously the common sense of the matter. We are not simply divisible into people capable of pure æsthetic appreciation and people incapable of any kind of æsthetic appreciation at all. There must be grades in the development of our capacity for æsthetic feeling, and to look down upon what we regard as beneath us is not always good manners nor is it always wise.

12. THE LITERATURE OF WISH-FULFILMENT

The distinction between pure and mixed æsthetic feeling should enable us to evaluate a little more justly, and perhaps more kindly, the literature which consists mainly of sentiments, of allusions to or descriptions of situations that call up the commoner types of emotion. It will not be disputed that the sentiments alluded to in Section 7 are healthy enough when occurring occasionally and naturally; they have a place in life, or they would not exist in such plenty, but the literature which celebrates them so freely is the abreactive literature of relaxation. There are still other sentiments which most of us at some time or other experience, though it is no longer thought respectable to indulge in them otherwise than imaginatively. The abreactive literature which exploits these sentiments has been called the literature of wish-fulfilment. Its commonest ingredients are murders, hair-breadth escapes, and illicit love. But if the literature of relaxation and wish-fulfilment merely provides an escape from the too insistent pressure of everyday events and an opportunity for self-indulgence in the emotions which either consciously or unconsciously we may want to experience, then it plays its part as one of the many forms of recreation and amusement open to human beings, though it can hardly be called great literature. When innocuous it must be classed with bath salts and confectionery; when not, with less wholesome things, like alcohol and drugs. The idea it stands for is, negatively the escape from boredom, positively 'a good time.' It enables us to identify ourselves imaginatively with those people whose lives are fuller and more interesting than our own, coloured by romantic friendships and adventures, broadened by foreign travel, and made happy by great wealth, perfect love, and the happy ending. What has been denied to us, what we have been deprived of, what we would give all we have to possess—these things we can have by falling back upon the image-evoking power of words. The worst of such literature is that as a rule it is merely abreactive, that it

provides momentary relief but no genuine or lasting satisfaction. It is catharsis by instalments that can never be completely paid. Too great an indulgence in it brings about an atrophy of the higher forms of human sensibility. After all, it is a consolation to remember that the greatest satisfactions cannot be had for the mere asking.

13. BEAUTY AND ENJOYMENT

As we have already indicated, it must not be thought that the purest form of æsthetic feeling which arises from the contemplation of great art depends for its existence upon a highly developed organization of our moral and intellectual life. Perhaps at the highest levels, art and morality are not inseparable, even though the Greeks frequently employed the same term for them both; and, in spite of Keats, beauty and truth are not always the same thing. As we have already implied, the infant who coos with delight at the sight of a pretty-coloured toy has the root of the matter in him, while the *Air on the G String* is enjoyed by many whose morals are not as they should be. At bottom the æsthetic feeling is nothing but a particular form of delight, a delight in what is regarded as being in its own way, and without reference to our human needs, as perfect as it can possibly be. The difficulty about isolating it is that while in itself it has nothing to do with truth or morality, it nevertheless is apt to become inextricably complicated with them, since no one can bring an absolutely open and empty (or rather, emptied) mind to the contemplation either of natural objects or works of art: indeed, we all of us bring minds that differ greatly from one another. It is interesting and, indeed, important for our general thesis to note that the contemplation of pictures is influenced by our reading methods. The Western European reads horizontally and so looks at pictures differently from the Chinese, who read vertically. This is one reason why we may fail to observe the rhythms of Chinese art, and why the Chinese do not always appreciate ours.

A great deal of nonsense is talked about getting the æsthetic feeling at its best by allowing an object to have its way with us, as it can only do when we give over analysing its elements and reflecting as to its meaning, and yield ourselves up to the sensations it will then arouse in us. We fool ourselves in thinking this possible. It is probable that the critics who talk of art as being purely a matter of the senses with the mind non-operative have been misled into supposing that the *impersonal* view is an *unpersonal* view and that *disinterested* feeling is *uninterested*. The idea of æsthetic perception as something which ignores the content of what is perceived is a signet of the imagination.

In view of this fact it would seem that æsthetic pleasures might be graded in a scale which would place the pleasures of sensation (*e.g.*, the taste of a ripe peach or the delicate odour of a rare flower) at a lower point than the sensitive appreciation of excellent craftsmanship in one of the arts; and this again, possibly, at a lower point than the appreciation of poetry which adds a new significance to experience and gives life a fuller and richer meaning. Thus, those who indulge freely in cheap literature, art, or music may, at one and the same time, satisfy an appetite of a sort and also get an æsthetic thrill through the realization that what they have read could not possibly be more enjoyable. But the finest forms of æsthetic pleasure come from disinterested contemplation of the object as something significant and somehow unique and perfect, and therefore satisfying in itself as a source of beauty apart from any material utility it may possess.

14. ÆSTHETIC APPRECIATION AND INTELLECTUAL UNDERSTANDING

What the poet has often to contend with, however, is the fact that he will often be addressing himself to those who are prevented by their familiarity with traditional meanings from understanding what he is trying to say for the first time. It is sometimes difficult in the most ordinary circumstances to make an unfamiliar meaning intelligible. In addition to making new meanings intelligible the poet frequently has to contend with those who have preconceived notions as to the province and the form of poetry. Thus, many persons think that certain subjects are 'poetical' and certain others fit only for prose; certainly the blank verse of Milton, the free rhythms of Walt Whitman, and the loose Alexandrines of Robert Bridges at first hindered their inventors rather than helped them. Again, a feature of the experimental work of Mr I. A. Richards at Cambridge has brought out very clearly the fact that a love of poetry is often accompanied by a total incapacity for understanding its meaning. This is not surprising, perhaps, in view of the fact that many people have told us that meaning in poetry doesn't greatly matter. For instance, Professor A. E. Housman quoted with approval the saying of Coleridge that poetry gives us most pleasure when only generally and not perfectly understood. An extreme example of this point of view is the remark attributed to Mr Arnold Bennett: "I don't care what language the words of an opera are written in so long as I don't understand it."

There would appear to be at least two types of the response which ignores the intellectual meaning of what is being enjoyed.

There is the facile response of the person who enjoys emotional situations, who has his feelings always so near the surface that they will invariably appear on the occurrence of any suitable cue. He is the person we call sentimental. One emotion, in particular, which he is prone to experience at the slightest provocation is the emotion of melancholy or sorrow in considering our mortal lot. Thus, Anatole France has written of an early experience of his in the appreciation of a poem which he happened to read.

. In this little poem there were many words and phrases that were new to me, and which I did not understand; but the general effect of them seemed to me to be so sad and beautiful that I was thrilled by a feeling that I had never known before—the charm of melancholy was revealed to me by a score of verses the literal meaning of which I could not have explained. The fact is that unless one has grown old, one does not need to understand deeply in order to feel deeply; things dimly comprehended can be quite touching, and it is very true that what is vague and indefinite has a charm for youth.

The appeal of melancholy was in this case to a nature already attuned to it, to a mind to whom "but to think is to be full of sorrow."

Even cultured and intelligent adults to whom the intellectual meaning of a text cannot possibly cause any difficulty may, however, be haunted by the fact that "*sunt lachrymæ rerum et mentem mortalia tangunt.*" These are the people who say, on encountering a felicitous verbal construction that awakens their sense of the pathos of human existence for ever under doom, that intellectual content of any kind in poetry is by comparison insignificant. They are apt to forget that they bring to bear on such language as has moved them minds that have been prepared by long and loving familiarity with the best classical poetry, so that though they may ignore the intellectual content of what they read, this is not the same thing as being ignorant of it. When Professor Housman tells us that the line from Milton's *Arcades*, "Nymphs and shepherds, dance no more," has a beauty and a pathetic quality about it which cannot be accounted for by an examination of the meanings of the separate words we must reply that his own record in poetry and scholarship would suggest that he was susceptible to a very marked degree to "the sense of tears in things human," and that the associations of the words for him, steeped for so long as he had been in pastoral poetry, accounts for the rest. Few among ordinary educated folk are aware of the intense feeling behind Milton's words. Our minds are not all equally sensitive, and those that are most sensitive are not always sensitive to the same kind of beauty.

There are a thousand and one things we cannot express in words that have the power to stir us to the depths, but they are not the same thousand and one for both Professor Housman and the morons.

We may say, then, that poetry which has no other purpose than to evoke the feelings we are predisposed to experience readily may very well do without meaning of an exquisitely exact or remote kind; but where poetry of an original and high order is in question it would be humbler of us to believe that the poet has something to say to us which, if properly understood, would enlarge our sympathies and make us feel to some extent differently from what we have been accustomed to feel.

We may note in passing that Matthew Arnold's touchstones for the detection of the degree of high poetic quality seem in their selection to have been biased, too, by his susceptibility to the intimations of mortality in human achievement. For example:

- (1) Absent thee from felicity awhile
- (2) Sat on his faded cheek.
- (3) Had we never loved so kindly . . .
- (4) Et jadis fusmes si mignottes !

Here we have the same note as in:

Nymphs and shepherds, dance no more.
Nous n'ions plus aux bois

15. FEELING FOR THE SOUND AND RHYTHM OF VERSE

But it is sometimes argued that many adults who are far less sophisticated than Anatole France or Professor Housman, and many little children, too, manage to get a meaning out of poetry read to them which is quite independent of (and possibly superior to) the sum of the meanings of the separate words and phrases. They form the second type of non-intellectual response we have alluded to. Upon close examination this second non-intellectual type of meaning turns out to be not a meaning at all but something which is intimately connected with the pleasurable sound of the verses, the intellectual meaning of the whole being as foreign to them as the meaning of what is being sung in Arnold Bennett's perfect opera. It is a fact, for example, that little Edmund Gosse at the age of eight or nine was greatly impressed one day by hearing his father read aloud a passage from Virgil. We may perhaps overlook the fact that the elder Gosse could not have given Virgil's lines the same sounds as the poet himself heard in them, seeing that we are not sure now what these sounds precisely were, and we may perhaps overlook the fact, too, that Dante, a far greater poet than Gosse, valued Virgil for his philosophy

rather than for his music. But let us hear what Edmund Gosse has to say:

And then, in the twilight, as he shut the volume at last, oblivious of my presence, he began to murmur and to chant the adorable verses by memory.

Tityre, tu patulæ recubans sub tegmine fagi,

he warbled; and I stopped my play, and listened as if to a nightingale, till he reached

tu, Tityre, lentus in umbra

Formosam resonare dolces Amaryllida silvas.

"O Papa, what is that?" I could not prevent myself from asking. He translated the verses, he explained the meaning, but his exposition gave me little interest. What to me was beautiful Amaryllis? She and her love-sick Tityrus awakened no image whatever in my mind.

But a miracle had been revealed to me, the incalculable, the amazing beauty which could exist in the sound of verses.¹

As a rule a certain amount of 'meaning' may of course be caught from the manner in which prose or poetry which we do not understand is read to us. This may have no sort of relation, however, to the meaning of the text itself: for example, the savages in *King Solomon's Mines* were awed by the recitations of the Englishmen while waiting for the eclipse of the sun—with which they had been 'threatened'—but the recitations, which were just for the purpose of filling up time, had for their content nothing other than the multiplication tables. I have myself heard a rigmorole in Welsh mistaken by an intelligent D.Litt. for the Lord's Prayer in that language. In short, to argue that the intellectual content of what is written makes no very great difference to the value of poetry as a source of æsthetic feeling is to exalt musical nonsense, or even such fine verses as Edgar Allan Poe's tintinnabulation, *The Bells*, to the level of *The Tempest*, *Paradise Lost*, and *The Prelude*.

It would appear to be true, then, that while the appeal of poetry varies with the personality of the reader or listener, the poetry that appeals to the best minds must combine in it the appeals that separately and by themselves may have the power to affect less sophisticated readers. By asking children of different ages to write down or recite the line which has appealed to them most in poems they have learned I have found some, like the young Edmund Gosse, who were charmed by the movement of the verse but many others for whom the subject was the main source of attraction. Again, some children liked the lines of their choice because of the sentiment. A good many others said that

¹ *Father and Son* (London, Heinemann, 1907).

the appeal lay in the power of the words to evoke pleasing pictures. Combine all these where the cultivated mind is concerned, and you have the elements which Matthew Arnold required in the finest poetry: high truth and seriousness, with diction and movement to match.

16. STAGES IN ÆSTHETIC DEVELOPMENT IN THE RACE

We have reached the point in our argument that the extent to which our minds become enlightened and our sympathies enlarged is reflected in the quality of the literature we are able to appreciate and enjoy. The æsthetic response to the best things in life is disinterested. As we become older and wiser it finds its fullest satisfaction at ascending levels of art and thought. Now it is worthy of note that in *The Testament of Beauty* Robert Bridges has traced four stages in the development of æsthetic sensibility. We see the first stage in man's enjoyment of nature and natural objects: such enjoyment is universal among civilized and uncivilized peoples, among old and young. "This spiritual elation and response to Nature," says Bridges, "is man's generic mark." The individual child lingers for a long time at this stage:

'Tis a delight to look on him in tireless play
attentively occupied with a world of wonders,
so rich in toys and playthings that naked Nature
were enough without the marvelous inventory of man.

(II, 464-467)

The second stage is marked by man's enjoyment of the artistic forms which he invents as an expression of his interest in Nature and natural objects. But, Bridges says, the sensible forms which first arrest attention direct our thoughts upward,

And Art, as it createth new forms of beauty
awakeneth new ideas that advance the spirit
in the life of Reason to the wisdom of God.

(II, 845-847)

Or, as he puts it in another place,

. . . beauty (as in bird-song)
was recognized consciently and exploited by art,
and after in man became that ladder of joy whereon
slowly climbing to heaven he shall find peace with God.

(III, 789-792)

An important step upward towards this highest form of being is represented in the third stage in which beauty is felt to be inherent in the human affections, particularly in love between the sexes. The next and final stage brings man to the appreciation of beauty in the world of moral, intellectual, and religious values:

Knowledge accumulath slowly and not in vain;
with new attainment new orders of beauty arise,
in thought and art new values.

(I, 698-700)

But throughout, says Bridges, whether we are dealing with Nature or Art, with human affection or religious devotion, beauty is

the quality of appearances that thru' the sense
wakeneth spiritual emotion in the mind of man. (I, 843-4)

Thus, in the words of the *Symposium*:

He who under the influence of true love rising upward begins to see that beauty is not far from the end. And the true order of going, or being led by another to the things of love, is to use the beauties of earth as steps along which he mounts upwards for the sake of that other beauty, going from one to two and from two to all fair forms, and from fair forms to fair practices, and from fair practices to fair notions, until from fair notions he arrives at the notion of absolute beauty, and at last he knows what the essence of beauty is.

17. STAGES IN ÆSTHETIC DEVELOPMENT: IN THE INDIVIDUAL

A parallel development of æsthetic sensibility appears to hold for the individual as well as for the race: that is, if the results of the simple experiment to be outlined below are to be trusted. A question was set by the writer to a number of children for the purpose of exploring their æsthetic preferences. It was couched as follows:

The following things have been described as very beautiful:

moonlight on the river, a glistening dewdrop, a hawthorn hedge in spring, choirboy voices in a cathedral, a well-constructed radio cabinet, the love of a dog for its master, the crescent moon in a clear sky.

Make a list of seven things which you consider beautiful.

The instances given were quoted in order to suggest the existence of beauty outside the realm of Nature, as well as within it, and to indicate that one-word answers should be avoided.

A classification of the answers showed very clearly that for the young child beauty is almost always associated at first with nature and natural objects. A few of the more childish answers had references to taste sensations (*e.g.*, the liking for jellies, etc.). But it is only with the approach of adolescence that beauty is thought of as existing in the human form and features and in the products of human activity; neither are the human relationships thought of as giving rise to any kind of æsthetic feeling. Still less is there any general conception of the existence of beauty in the ideal world of moral, intellectual, and religious values.

Gradually, after the age of ten or eleven is reached, boys and girls become conscious of beauty in the arts and crafts, especially

CLASSIFICATION OF ANSWERS TO THE QUESTIONS ON BEAUTIFUL THINGS

The first number of each pair below is the number of answers given under the corresponding heading. The second shows the percentage of all the answers taken together.

	GIRLS			BOYS		
	11-12 years	12-13 years	13-14 years	11-12 years	12-13 years	13-14 years
I. Nature						
Flowers and gardens, trees and woods, etc.	48-25	73-20	79-23	27-20	22-10	27-14
The sky: sunset, dawn, moonlight, stars, the rainbow, storms, etc.	23-12	41-12	24-7	18-13½	21-10	17-9
Mountain, hill, and cliff scenery	11-5	8-2½	12-4	7-5	14-6½	4-2½
Seasonal changes: snow, autumn tints, spring, etc.	11-5	26-8	22-6½	2-1½	6-3	7-4
Country sights and views: villages, cottages, farms	8-4	21-6	17-5	3-2	12-5½	15-8
Country sounds and smells (e.g., birds' songs), etc.	14-7	10-3	16-4½	6-4	14-6½	9-5
Animals and birds, fishes and insects	16-8	34-10	28-9	12-8	18-9	13-7
Miscellaneous	3-1	12-3	0	-	-	3-2
	165-83	260-65	239-70	81-61	127-57	108-58
II. Human Life						
Craftwork: handicraft, embroidery, dresses, etc.	6-3	15-4½	15-4½	7-5	3-1½	11-6
Paintings and sculptures, vases, designs, etc.	4-2	7-2	9-5	6-4½	8-3½	9-5
Music	3-2	12-3½	7-2	1-1	10-4½	4-2½
Literature, poetry, etc.	0	2-1	3-1	11-8	0	7-4
Ceremonies and spectacles: civic, military, domestic	3-2	24-7½	15-4½	5-3	20-9	8-5
Bridges, buildings including interiors, etc.	10-5	17-5	16-5	5-3½	18-8	10-5½
The human form and features.	1	10-3	6-2	1-1	5-2	1-2½
Forms of human skill (e.g., acting and dancing)	0	0	1-½	-	-	1-½
Machines, motor-cars, aeroplanes, airships, ships, and yachts, etc.	2-1	23-6	10-3	16-12	27-12	19-11
Miscellaneous	-	-	-	-	-	2-1
	2-1	3-1	4-1½	0	3-1½	2-1
III. Human Relationships						
	0	1-½	2-1	0	0	0
IV. The Ideal Relationships—Ethics, Philosophy, Religion						
	0	1-½	2-1	0	0	0
Totals	31-17	114-35	89-30	52-39	94-43	78-42

when reminiscent of natural objects, in pageants and ceremonies (domestic, civic, military, etc.), in the affections of animals, and later still in human love and friendship. And instead of finding beauty merely in single natural objects we find a preference for objects in meaningful romantic or picturesque settings, as though the objects themselves were no longer enough to stir or awaken the æsthetic sensibility. The only difference between the boys and the girls would seem to be that the boys see more beauty than girls in machines, aeroplanes, airships, liners, and this class of thing. But it is late in adolescence, if at all, that the higher kinds of æsthetic sensibility associated with the things of the spirit are reached.

18. EDUCATIONAL IMPLICATIONS

There are two different ways in which teachers and writers may react to the facts revealed above. They may either think it their duty to try at once to raise the level of children's taste or wisely decide to postpone attention to literature which deals with subjects which children are not mature enough to appreciate. Good teachers, for example, would not choose for the literature lesson with a class of boys Masfield's *Beauty* which consists of eight lines, six of which take the form of references to the beauties of nature—dawn, sunset, daffodils, rain, blossoms, etc.—while the seventh and eighth refer by way of climax to a woman, and tell us that the loveliest of all things "Are her voice, and her hair, and eyes, and the dear red curve of her lips," since the normal boy of twelve to fourteen or fifteen sees nothing to get excited about in these things. Equally absurd would it be to act on the assumption that all Nature poetry is simple, even where expressed in the simplest of language. Few unsophisticated persons, for example, get all the meaning intended in many of Wordsworth's 'simpler' poems.

The fact is that children like poetry when it deals with subjects that appeal to them, and they dislike it when it deals with what does not engage their natural interests. Boys, for example, from six or seven upward, will usually enjoy any sort of poem that deals with dogs. Quite intelligent children will declare the feeblest and most unmusical stuff about dogs to be superior as poetry to anything Keats or Milton ever wrote. But they are able to distinguish fine degrees of excellence among the poems presented to them that have dogs for their subject. Æsthetic appreciation in children cannot operate in a vacuum devoid of interest. Within the sphere of their interests, however, they can be educated to appreciate the best. Of two poems that deal with

the same subject, one of poor quality and one of good quality that needs working at before all its beauty is disclosed, they will vote after proper study in favour of the latter when asked to state their preference. This effectually disposes of the argument so often heard that one must not analyse any poem which children are given to read and appreciate for fear of destroying their liking for it. But it does not mean that bad teaching cannot possibly do any harm; what it does mean is that it is often possible to lead the child gradually to appreciate things which have no initial appeal. "One of the tasks of education," says a recent writer,¹ "is to place before the developing mind a succession of imaginative works, each of which is a little beyond the present range of emotion but not beyond the range of sympathy." This is the wisdom of the whole matter. It is the dull and tedious over-emphasis upon the intellectual elements in works of literature that deal with subjects outside children's interests and beyond their imaginative grasp that is responsible for their distaste of what they would appreciate readily enough if it were presented later and in happier circumstances.

19. TWO ASPECTS OF ÆSTHETIC DEVELOPMENT

It would seem from what we have said that æsthetic development takes a double form, or at least may be regarded from two different points of view. On the one hand, there is a progressive refinement apparently in the objects that determine the æsthetic response—a tendency towards preoccupation with whatsoever things are lovely and of good report; and on the other hand, there is a gradual disentanglement of the æsthetic response from the disturbance due to personal feelings, so that the æsthetic feeling itself becomes completely impersonal and disinterested. It is the latter type of feeling which is æsthetic feeling at its purest, though how often it is experienced is doubtful. Viewed in one way, marked æsthetic development would not seem to make it easy for the mind to dwell upon what is degenerate and base; from the other standpoint æsthetic development would seem to enable us to contemplate even what is ethically disgusting in a cool and dispassionate manner and at times even find beauty in it. It is not a simple matter at first to reconcile these two views.

But the mind which has moved from the enjoyment of the things of sense to the enjoyment of the things of the spirit has not thereby lost its power of personal detachment. Indeed, its power of impersonal contemplation will have become greater

¹ D. C. Griffiths, *The Psychology of Literary Appreciation* (Melbourne, The University Press, 1932).

rather than less, since it is able to experience the æsthetic response at all levels of enjoyment. Its ethical reaction to what it considers ignoble or unworthy, however, is not an æsthetic but a purely personal reaction, and takes place within the sphere of conduct. The æsthetic judgment takes place in the serener world of contemplation and occurs when the practical opportunity for action is past; in other words, in a world where the consequences of actions may be imagined and valued without prejudice one way or the other, since the question of adopting a practical policy towards them does not arise.

20. THE CONTRIBUTION OF LANGUAGE TO EMOTIONAL DEVELOPMENT

It will now be clear that language can play an important part in bringing about the elevation of the mind through the formation of the humaner sentiments and through a sharpened sense of beauty in human life and spiritual values. The education which has made us what we are as civilized human beings has been fundamentally linguistic. Religion has relied upon the Word which was made flesh. In our own country since the Renaissance, which gave us the classics of ancient Greece and all that they stand for in the enlargement of the sympathies, and since the Reformation, which gave us the Bible to raise and steady the minds of the people for three centuries, books have more and more played a conspicuous part in establishing and maintaining the traditions which keep the current of national life healthy and vigorously strong. The Authorised Version of the Bible, *The Pilgrim's Progress*, *The Rights of Man*, Mill's *Liberty*, and *The Subjection of Women*, Dickens's novels: such books as these have been of incalculable effect in refining the public taste. And in a humbler but not less powerful manner such books as *Black Beauty* and *Eyes and No Eyes* have in the hands of teachers led to the almost complete disappearance of cruelty to animals and the encouragement of a love of wild life in all its forms. In conclusion we may perhaps fitly quote further from the introduction to the *Chilswell Book of English Poetry*:

Language has a hidden but commanding influence in directing spiritual life. In whatever country we may be born we imbibe the ideas inherent to its speech; nor can we escape from the bias which that accident must give to our minds, unless we learn other languages and study their literatures. In the physical and mathematical sciences, which can either employ precise definitions or fix the references of their terms by sensible instances, this is not true: the signification of their corresponding terms is determinate and con-

stant for all peoples; but our higher aspirations and imaginative faculties, having no measure nor any objects for the senses to grasp, cannot have their expression thus standardized: the commonest names in this field of thought (such words as spirit, soul, reason, and mind) do not mean to us precisely what their equivalents mean in other tongues, and the interrelations of those other meanings are consequently alien to our thoughts.

And in these higher faculties themselves there are actual differences distinguishing the different races of mankind—differences that may be ascribed to radical peculiarities of mind; and the words that came to be coined to express them must in their currencies have reacted powerfully to strengthen those peculiar ways of thought and feeling, and to control the character of the men and women who used them, because our Ideals, which are formed upon habits of thought and feeling, influence them and wholly prescribe our moral conduct and spiritual life.¹

¹ R. Bridges, in the Introduction to *The Chiswell Book of English Poetry* (London, Longmans, Green and Co., 1924).

CHAPTER X

A SUMMING UP

1. THE PRINCIPLE OF GENETIC SEQUENCE

By way of summary, a brief reference may not be out of place to a few of the ideas which have been emphasized a little more strongly, perhaps, in this book than in previous studies.

Linguistic progress in children is often thought of as a development in the power of using words with increasing fluency and precision. A familiarity with 'growth-curves' may suggest that this development is continuous and subject to simple linear measurement. Acting on this principle, teachers may be apt to dwell on every 'hard' word that occurs in any lesson they may give, irrespective of whether the children under instruction are mature enough or have enough experience of the right kind to make explanations intelligible. The present book represents an attempt to grade linguistic difficulties in accordance with the principle that development is best regarded as taking place at ascending levels of ability, ranged in genetic sequence one above another. That there are levels of mental organization, hierarchical in character and complexity and successive in time, and representing qualitatively new powers which are reflected in the kind of language used for their expression, is an idea that is beginning to find support, and it is one which should prove most fruitful for education when fully worked out. Already we may see it exemplified in the mental advance of children as they display in turn an increasing interest in material objects and events and ability to talk about them, a sympathetic curiosity in the behaviour of living organisms, an intelligent understanding of the social needs and desires of their fellows, a regard for moral principles, an appreciation of the æsthetic aspects of experience, a respect for intellectual standards and an ever-deepening spiritual insight. The acceptance of this view must mean that progress in the mastery of language will not be a matter of simple instruction and willing response, but very largely one of natural development through the appearance of fresh insights. If we are right the teacher's task ought to be that of discovering the steps which will allow of a gradual ascent to high-level achievement and of guiding his pupils by precept and example towards it.

The reader who has followed us so far will be in a position, we hope, to test the value of this principle as it has been worked out, tentatively still, it is true, in the foregoing pages.

2. VOCABULARY

In the field of vocabulary the progress of children shows itself in two main ways: in an increase in the number of words available for use, and in their ever-widening range and precision. In recent years the quantitative aspect of vocabulary growth has figured most largely in experimental work. Word-counting has been regarded as the royal road to understanding in this field. In Chapter II fresh evidence has been adduced for the belief that we still underestimate the size of the average child's vocabulary for speech and for writing. When he fails to express what he has in mind it is, as a rule, not so much a sign that he has fewer words at his command than those who succeed. The reason is a different one. He has not yet grown mentally to the stage of acquiring the general terms necessary for convincing us that he realizes the broader significance of what he has observed or read. Finding names for the more obvious objects and events of everyday life will be easy enough to children who have been encouraged to talk with one another about what they see happen; finding words that will enable them to fix their attention on the relations between things, relations which adults consider significant will always be much more difficult. Except for proper nouns, words are names for kinds of things; in using words we are speaking of things as belonging to classes. Children do not find great difficulty in learning the names of things which they can see: for example, *piccolos*, *melons*, *siphons*. Names for kinds of quality or classes of fact which cannot be visibly represented are not so readily acquired: for example, *system*, *potentiality*, *strategy*. Such terms, denoting types of abstraction which children have little or no use for, may be arranged in ascending order of generality and they are usually acquired in that order. Their acquirement as organic elements in a working vocabulary of children is an indication of the stage reached in their intellectual advance.

We must never forget that language and thought develop together and inseparably. We may teach a child to pronounce 'hard' words, and after explaining their meanings in dictionary terms, we may provide ingenious exercises for their use and so secure what looks like genuine understanding. But as long as he has no vital need for such words they will fail to find a place in his working vocabulary. Moreover, in the course of our explanations we may, unless we take care, suggest unwittingly that difficult words and phrases can usually be replaced by simple homely terms without loss of meaning, and the result of this will be that we shall lead the child to imagine that the mark of a good

education is to be seen in the capacity to talk and write about plain things like a house agent. Good teaching with older children will lead to a desire on their part to master the finer shades of difference between apparently synonymous words and phrases.

3. CONTINUOUS SPEECH

The language used by children among themselves is the language they have found easiest and most serviceable for the expression of the thoughts and feelings habitual to them. The idiomatic phraseology of their family circle embodies in its own unique way the most vivid of their fundamental experiences. This idiomatic phraseology may not commend itself to the sophisticated purist, but it has, at least, the homely virtues of human warmth and sincerity. It is difficult, therefore, if not impossible, to get young children to reclothe what they have most deeply felt or thought in some superior vesture recommended to them by a superior and educated elder. Children adopt the language of grown-ups in so far only as it chimes in harmoniously with their own needs. If their speech is unsatisfactory and needs to be improved they can be introduced to fresh fields of experience and helped to articulate what they think or feel about each novel impression as it arrives in terms of the language that alone can do justice to it.

If we examine speech formally, certain patterns of phrase and sentence may be distinguished. Every child has a number of these patterns at the back of his mind ready for use when he comes to speak or write. In Chapter III an attempt has been made to set out in genetic succession a few of the generally approved patterns of sentence-structure. Progress will be seen to consist in a growing power to hold together in the mind more and more ideas of increasing complexity and to speak of them with due regard for their relationship to one another. The mastery of a sentence-pattern reveals itself in the capacity to repeat it at will in different words. We cannot say that a pattern has been mastered until a child has made use of it on more than a single occasion. Many writers have assumed, however, that a child has the capacity to use a given pattern, say, a complex sentence, as soon as one appears in his conversation, though it may have been employed as a formula without any appreciation of its peculiar form. This error vitiates a great deal of the conclusions so far drawn as to the age at which certain types of sentence can be managed by little children.

Progress in speech also shows itself in a growing ability to tell a story with proper attention to the various time relationships

that exist between the events that comprise it. Evidence is given for the belief that events are at first pictured as occurring in simple succession, and that only gradually are other kinds of time relationship well enough understood to become expressed. Even at the onset of adolescence only a few of the more intellectually mature children appear to feel it necessary to employ in their conversation such tenses of the verb as the past perfect and the future perfect. The ability to state clearly what follows logically from certain types of statement, and to outline the pros and cons of an argument about a familiar problem does not usually appear before the age of fourteen.

Another line of linguistic advance which we have touched on in passing is to be seen in the growing awareness among children of the desirability of suiting their language to the specific social occasions of its use. This is a line of advance that would take us into an almost unexplored country.

4. THE ABILITY TO READ

The ability to read a non-technical book or newspaper article for information is perhaps the main intellectual achievement possible to children who have reached the statutory school-leaving age; indeed, it is the intellectual achievement which the school exists primarily to secure. In Chapter IV, where we have dealt at some length with this subject, the obvious distinction has been made between the minor and the major aspects of reading ability, between skill in recognizing what words 'say' and skill in determining what words mean. But there is no such thing as absolute skill of a kind that would enable us to read with perfect comprehension anything and everything. Clearly, therefore, children will have to master the many difficulties inseparable from different types of reading material, one after another in suitable order, and they will need our help and guidance at each stage. Their progress will depend to a large extent on the development of purpose in their attitude, on the strength and persistence, that is, of their desire to discover, by means of reading, the answers to questions that have excited in them a strong interest.

The most common of these questions, shared by all children and the earliest to appear, are those bound up with the reading of entertaining fiction: *viz.*, What is the story about? What will happen next? and, How will it all end? Far too many children never rise above the level of reading represented by the simplest varieties of this interest. Others can be trained to go to books as a matter of course whenever they may wish to find out how

to make something in which they are interested. Others, all too few, will form the habit under friendly encouragement of turning to books whenever they want to make sure of facts for which they have a use. The point to remember is that unless the young reader genuinely wants to know the answers to questions that have aroused his curiosity, any reading which he may do is likely to be largely ineffective as a means of intellectual training, much as it may minister to his pleasure.

Given the desire, however, to find the answers to such questions as have interested him, a child will advance steadily from one level of competence to the next above it (*a*) in the realm of fiction, from stories in which the attention is centred in a simple sequence of picturable events, all happening to the same person (or animal) with whom the young reader can easily identify himself, through the stage at which the stories involve a limited number of persons (or animals) acting from readily understood motives, to the stage at which the stories deal with personal rivalries and difficulties which are cleared up by the display of such qualities of character as courage, loyalty, and unselfishness; (*b*) in the realm of practical affairs, from an understanding of simple notices in one or two words through an understanding of verbal descriptions of everyday activities and processes which require for their successful accomplishment a rigid adherence to a stated order of events, to the understanding of paragraphs from books and other sources in which familiar phenomena are explained in terms of the action of natural forces; and (*c*) in the realm of logic, from the stage at which what is implied by a simple statement about an everyday situation is understood, through the stage at which the ability is shown to draw an inference which naturally follows from an understanding of two or three related sentences, to an understanding of a reasoned paragraph on a non-technical topic in a history, geography, or science text-book. Only after long and assiduous mental effort will the mature ideas that have been entertained by the wisest and noblest of men become accessible to the student through the printed page.

5. THE ABILITY TO WRITE ENGLISH

The ability to put one's thoughts into writing is one of the more recent acquirements of the human race. Whereas speech is as old as human nature itself, writing, to quote Whitehead,¹ "as a factor in human experience, is comparable to the steam-engine. It is important, modern, and artificial." In communi-

¹ *Modes of Thought* (Cambridge University Press, 1938).

cating our meanings orally we can, if the need arises, employ gesture, facial expression, varied intonation, pitch of voice and emphasis, in addition to words, and when any of these is not enough we can repeat in another form any point that has not been made clear.

But though the art of writing entails the use of various devices designed to take the place of those with which we eke out our speech, we nevertheless value in this country the virtues of freshness and spontaneity in children's writings, and hesitate to teach them 'composition' at too early an age. Instead, we encourage little children to write, not with their attention centred on the need for formal correctness but as they would speak to an intelligent listener. We feel sure that in course of time they will gradually find that it is necessary to produce writing that will stand up to close scrutiny whether as regards content or form. Gradually, we feel, they will learn to anticipate the possibility of misunderstandings that may arise from ambiguity and lack of precision, and this will lead them to pay greater attention to the choice of their words, and to the frequent necessity of using an uncolloquial type of sentence-structure in order to make their meaning daylight clear.

Much as we should like, therefore, to see children taught from the outset in accordance with the rules laid down in a logically arranged manual, we have taken the view in Chapter V that their development as writers cannot be forced in any direction without serious loss. We may note with interest their growing success in the choice of words to suit their meaning and their increasing command over the more complex varieties of sentence-structure. But these achievements will be due very largely to their own general mental development, and this we can only indirectly ensure. After the event we can make useful suggestions for the avoidance of faults which have been made and for the improvement of what has been imperfectly expressed; to do more in the case of young children is to run the risk of securing formal correctness at the expense of all that makes their writing worth reading.

Nevertheless, we have attempted to show something of the order in which a few of the elements of an adult prose style begin to appear in the writings of children, basing our facts in this connexion on an analysis of a large number of essays of children of school age. We have also suggested exercises for older and brighter children which, by their nature, compel the writer to think and plan before he writes. The practice is recommended of setting children to write down all that they feel is of interest or importance about a selected topic in just three sentences; the

advantages of this practice are indicated and a tentative scale of what may be expected by way of performance at different ages is given.

6. THE CHILD IN THE WORLD OF OBJECTS AND EVENTS

In Part I of this book an attempt was made to outline the development of the linguistic skills by means of which children learn to express what they think and feel. The physical, social, and imaginative settings in which these skills operate call equally for our attention. These settings undergo considerable modification as children grow older, becoming less chaotic and more orderly, less subjective and more objective, less confused and more clear. As we have more than once said, language and thought develop together, so that the language used by children in speaking and writing about the objects and events of their world is shaped to a great extent by their notions of what this world is, what sort of status its objects and events have in it, and in what sort of perspective they are seen. Their progress in this field will be seen to consist in the progressive clarification of their ideas of the structure and function of things and of the relations that exist between them and between the parts in each one of them.

Through the activity of selective attention, certain objects and events begin to stand out independently very early in the life of the infant, and constitute, when taken together, the nucleus of an external world existing apart from his own vague feelings. At first he notes those features only of his environment that make a marked difference to him by their welcome or unwelcome appearance or disappearance. This means that sooner or later he will be able to think of himself as a person with a status distinct from that of everything else that he may observe. In orderly sequence we may thereafter note the development of a power to attend to the elements in things which make these differences, to note similarities among varieties of such elements, to classify them, to generalize about them, and to think of them finally in terms of a perspective of non-picturable concepts.

From the outset that which moves in and out of the field of vision becomes, as we have said, of the greatest interest to him. He learns speedily that the things which move do so either of their own accord or as a result of something done to them. It is at this stage that children regard the universe as completely anthropomorphic in its make-up, so that whatever happens ought, they think, to be explainable in terms of human (or quasi-human) actions. Further attention to this feature of movement leads them

to form a vague concept of things as being either animate or inanimate. This concept becomes clear slowly, as will be evident from the fact that children may be discovered towards the end of their schooling who still identify life with movement and think of moving clouds and rivers on the one hand as having a life of their own, and on the other of motionless trees as having none.

During this period, however, brighter children, at least, learn to look upon the world as the theatre where all things happen in accordance with well-established laws. The measure of their intellectual progress will be the extent to which they are able to free themselves from superstitions about the power of impersonal forces to act personally and prefer the explanation of physical science to those of mythology.

Reasons are given in Chapter VI for the belief that children follow much the same course as that followed by the race in their endeavour to adapt themselves to clock and calendar time.

7. THE CHILD IN THE WORLD OF PERSONS

The progress of children in forming satisfactory ideas of the personalities and characters of those with whom they come into contact is dealt with in Chapter VII. While still immature they will of course be unable to say precisely what these ideas are, but we may guess at their nature and quality by studying the kind of story they like to be told and the kind of book they like to read. We have traced their development from the earliest stages when their ideas of others are little more than mirrored projections of their own wish-fulfilments and their fears to the stage at which their insight, even if it is not so completely deception-proof as many like to think it, is still much more realistic and penetrating.

As the child learns the language which helps him to recognize, classify, and retain in his mind a picture of the more familiar character traits he grows to understand some of the commoner motives that underlie our social behaviour. For a long time, however, he finds it difficult to think of character except in terms of a single salient trait, and this accounts for the popularity among children of the traditional folk story and fairy-tale, the *Æsop* fable and the historical story or the legend, in all of which the characters portrayed are shown in contrasting colours as good or bad, clever or stupid, generous or mean, and so on. Typical heroes and heroines for our children at this level of development are Joan of Arc and Robin Hood, King Alfred and Grace Darling—as, of course, they are usually presented to them. Only such other qualities as will harmonize with the salient trait

are attributed by children to any character. Even towards the end of the junior school period the brighter children alone seem ready to accept the idea that the same person may possess what must appear to them as contradictory qualities—for example, generosity and bad temper, stupidity and courage, intelligence and vanity. If history (really an adult study) is to be taught to children, then, to judge by common practice, the great personages must be represented in few but striking harmonies of colour, with all their natural disharmonies omitted.

During the senior school period children begin to entertain the idea that certain character traits may carry with them their own corresponding defects, and that certain conventional 'mixtures' of motive may be quite natural. This is as far as the average child appears to advance during the period of compulsory schooling. The novels and biographies which depict their heroes and heroines in subtler shades and colours make very little appeal to him. He will be content to remain for a long time in the world of Robinson Crusoe, David Copperfield, Long John Silver, Sherlock Holmes, and the Scarlet Pimpernel.

8. METAPHOR AND ANALOGY

There are experiences common to all of us which we find it impossible to describe in literal terms. It is not only the poet who needs metaphor for conveying to us his message. The ordinary person has also to resort to metaphor whenever he wishes to speak about things that are not physical. The time-honoured truths that concern human nature, for example, are usually couched in figurative language. This is a fact that is not fully appreciated by little children. Below the age of eleven they tend to interpret parables and proverbs literally, and they do so because they have had little or no experience of the sort of general truth that requires metaphor for its expression. The more obvious meaning of what children experience seems to obscure their view of its wider significance. The attempt to teach children to understand and use metaphor before they are mature enough to require it for their own purposes is largely futile. The common practice, for instance, of introducing figurative language to children for its ornamental value is misconceived. The fact that we can seldom tell from their untutored writings six months or so after they have received carefully prepared and skilfully presented lessons on, say, the simile, whether they have had them or not, seems to show that maturation rather than instruction is responsible for the appearance of metaphor in a child's written work.

Earlier than this, however, children are able to see a general likeness between one class of situation and another, and between elements in the one and elements in the other. But they are apt to think that what is true of a given situation with which they are familiar must be just as true of another which it resembles. They reason from analogy about such situations and reason badly when they do so, not so much because it is wrong to reason from analogy, but because they lack the experience which would enable them to check their conclusions. Analogy is the fruitful origin of a great deal of the best of our scientific discoveries, though it is necessary always to remember that those who have made such discoveries have known how to put their conclusions to the test the passing of which would ensure their thorough trustworthiness.

It is worth pointing out, perhaps, that much of the supposed metaphorical language of little children is not intended. At the age when their view of the world is almost completely anthropomorphic they find it natural to speak of the forces of the physical universe as though they were personal, and they do so not because they are original thinkers as because they know no better.

9. LANGUAGE AND FEELING

As the child's command of speech is extended he begins to realize that it is not necessary to resort so often to temper-tantrums to gain his ends, that the language he acquires will enable him to express his desires not only with a surer satisfaction but also with greater force and effectiveness. The speed with which he discovers this will depend, of course, on the quality of his human environment. There can be no gainsaying the fact that speech supplies the intellectual element which is needed to make the control of feeling possible. We may learn to control our own feelings by reasoning ourselves into sensible behaviour; or we may allow others to control us, if we allow them, by securing from us the unthinking stock responses which certain well-worn phrases and catch-words too often have the power to evoke.

The arousing of still stronger responses can be brought about through appeals to the instinctive impulses, and these are apt to cause marked emotional disturbances capable of upsetting the mental balance for the time being. The advent of the power of reflection (shown in the capacity for asking oneself questions and considering the value of various possible replies) tends to restore the mind's equilibrium. Again, how soon this power will appear must depend upon the child's parents and teachers. It is through

this reflective process that the growing child begins to form sentiments, and the durability of these is also largely due to the linguistic elements in their structure. Through the sentiments the child can be led to prefer the fuller satisfactions that come from the realization of long-range purposes to the ephemeral reliefs which follow from surrender to impulse. In Chapter IX we have dealt with the part which language plays in nourishing, sustaining, and ennobling the sentiments, and we have done so because the organization of the child's mental life through the creation of sentiments is the basis of all successful character training.

Apart from the direction of the emotions through channels prepared for them by the sentiments there can be no "training of the emotions" as such, despite frequent references to its possibility. To attempt such a thing would be like trying to correct the English exercises of children that had been written in invisible ink of a kind we were powerless to render legible. When it deserves the name emotional training results from reflective attention to the intellectual, æsthetic, and ethical elements in mental activity that shape and unify the sentiments with which they have become associated.

As in other directions we have drawn attention to the likelihood of there being a genetic succession of "ascending levels" in this kind of mental development. To put it briefly, we may say that the earliest sentiments to take form in the mind of the child are those centred round some simple concrete object (for example, a doll or pet). With a fuller understanding of the part others can play, and do play, in his life the child next begins to form sentiments for persons in the immediate circle of home or school. Sentiments that are deeply bound up with one's own ideals of personal development are likely to appear next. Impersonal interests follow, and with the problems of self-control clearly understood, some measure of devotion to the ideals of beauty, truth, and goodness becomes a reality.

Beauty, truth, and goodness are variables in so far as they mean, as they must, different things for an individual at successive stages of his mental growth. We have dealt in Chapter IX with the child's æsthetic development in the belief that all three lead ultimately to the same goal, and that it is easiest, perhaps, to conduct the young child towards that goal along the by-ways of æsthetic experience where his journeying will be most pleasant. One could argue that this method would have met with the approval of Robert Bridges, who traced in *The Testament of Beauty* the progress of the race towards divine wisdom and happiness by much the same route. Reasons are given, derived from experi-

mental work, for our belief that in the æsthetic sphere, as in other spheres, a genetic sequence of levels of development exists.

10. CONCLUSION

We have now arrived back at our starting-point—viz., that linguistic development, like many other forms of true growth, is a gradual affair, and that we must not try to make our children run before they can walk. Adult skills, insights, standards, and ideals are developed from the less mature skills, insights, standards, and ideals of an earlier stage. Language is expression, the verbal variety no less than the non-verbal forms of gesture, dancing, music, and art. There can, therefore, be no language of any great value in the absence of something worth expressing. We have repeatedly emphasized the fact that the indispensable prerequisite for any increase in linguistic power is the enlargement and illumination of the mind. This can be brought about only by the most skilful teaching, of the kind that is able to exploit the natural interest of children in their surroundings, through the encouragement of free but sensible comment by them and the discussion of the bearing of ideas arising from such interest on other less obviously relevant matters that exist just beyond their mental horizon. All this entails an intimate understanding of what types of activity are likely to occupy the attention of children at different ages, how their attitude to each type differs from ours, and to what extent the ideas they entertain and the language they use in speaking of it can usefully be brought into line with our own.

Unfortunately our knowledge, increasing though it may be, is still insufficient about the stages by which children advance from immaturity to maturity in the various directions in which we wish to lead them. It follows that we must never give up trying to analyse the many complex problems of education into manageable elements, and be continually alive to the necessity of planning and grading our teaching, so that every step forward children make will give them a real sense of achievement and produce a happy confidence that they are ready to deal with whatever difficulties may lie immediately ahead.

Perhaps we may conclude by saying again that no results worth having can be produced by forcing growth. Education must always be a leisurely affair. The new levels at which from time to time a child's thought will begin to function effectively are apt to appear at unpredictable moments. What, however, we can do is to encourage intelligent activity and the experimental spirit in those we teach; we can habituate them to the idea of

asking questions about the things that puzzle them and of discussing the significance of what is more open to observation. These are no less essential to the linguistic education of children than the excellent educational practice recommended by the English *Book of Common Prayer*: "Read, mark, learn, and inwardly digest."

PART III

APPENDICES

APPENDIX I

RESEARCH IN EDUCATION. AIMS AND METHODS¹

1. THE GENERAL METHOD OF RESEARCH

The modern associations of the word 'research' are essentially scientific. The research worker in a given field must scrupulously obey certain well-recognized rules of procedure if he wishes to gain lasting approval for his conclusions. He must, for example, make a disinterested collection of the observations and the facts relevant to the inquiry he has undertaken, he must show common sense in classifying them, and submit them, or be prepared to submit them, to statistical treatment; and he must present his interpretation of their general significance as naturally and logically arising out of them. Moreover, he must be able to show that he has checked and confirmed his conclusions by reference to as many random samples of fresh observations or facts as he has been able to marshal for the purpose.

2. THE AIMS OF RESEARCH IN EDUCATION

In the field of education the research worker, equipped as he must be with a thorough training in both theoretical and experimental psychology, will endeavour to do three things for us

- (a) he will aim at providing us with outline charts of normal development in various directions in the intellectual, social, and æsthetic spheres by specifying the natural stages of growth particular to each, and the order in which these must be passed through if mental development is to be vigorous and healthy,
- (b) he will succeed in working out reliable standards of achievement in the acquisition of various forms of skill, so that we may be able to gauge with some approach to accuracy by how much the performance of any child in any direction exceeds or falls short of the average, and
- (c) he will help us to discover methods of learning and of teaching which are most likely to be effective for given purposes

¹ The material of this Appendix originally formed part of the third Tibbey Memorial Lecture. It was given at University College, London, on January 6, 1939, under the auspices of the National Association of Head Teachers, and was designed as a tribute to the memory of Thomas George Tibbey, a far-sighted and keen-minded headmaster who did much to further the cause of educational research among his colleagues.

3. THE TEACHER'S STANDPOINT

It is probably true to say that for work of this kind the average teacher has neither the time nor the inclination. Whereas his duties and his preoccupations lead him to identify himself intimately with his pupils rather than with the means whereby their progress is assured, the research worker will endeavour to keep himself free from disturbing personal attachments and maintain a completely objective outlook in his work. His sole concern will be:

- (a) to devise such methods and plan such situations for the discovery of useful truths as may easily be reproduced by others; and
- (b) to reach conclusions of a general nature about them which are open to independent verification.

Only with the greatest difficulty can the teacher, as a rule, bring himself to take up and maintain so impersonal a point of view. He cannot easily bring himself to look upon his pupils as satisfactory material for scientific experiment; indeed, the more he learns of them as individuals the more he feels that the complexity of their mental endowment and the variability of their responses from day to day are unlikely to provide anything but the most refractory kind of material for the purposes of the experimentalist. He feels that his pupils will require a great deal of close and sympathetic study if they are to be individually understood. Consequently, he is apt to regard the research worker with a certain amount of suspicion, at any rate as soon as the latter begins to discourse upon the nature and needs of children on the basis of his scientific experience alone.

4. THE IMPORTANCE OF A CLEAR BACKGROUND FOR CHILD STUDY

Nevertheless, though children will always require close and sympathetic study if they are to be individually understood, they still have common characteristics, both as compared with adults and as compared with other children who are older or younger than themselves; and with children, too, of the same age who have been brought up in markedly different circumstances. And though they may all vary from day to day, or show uncertainty at times in their response to both teaching and testing, it is useful to have a steady background of generalized knowledge about them at different ages, against which the variations and uncertainties of a particular child may be more easily seen for what they are. It is this kind of background which the research worker in the field of education seeks to establish.

5. DANGERS OF DRAWING CONCLUSIONS FROM A LIMITED EXPERIENCE

I may perhaps be forgiven if I suggest, before going any further, that teachers and research workers are alike susceptible to certain

human weaknesses which are apt to colour or to cloud their outlook. Each, for example, may be strongly tempted to generalize too widely from a necessarily limited range of experience. Teachers, on the one hand, may forget that what is true of one type of child (familiar enough to them) is not always true of others; so that, for example, what suits the town child may not suit the country child, what appeals to neglected children may not appeal to well-cared-for children, or what is good for a group as a whole may be anything but good for individuals like John Smith or Mary Jones.

Research workers, on the other hand, may rashly conclude, unless they are constantly aware of the danger, that an experiment which they have carried through successfully has given them not only a set of particular truths, seen for the first time, maybe, in a fresh pattern and with a new significance, but a glimpse also of the truth which is universal and eternal.

As a rule, it is the disciple rather than the master who falls into this error. The master, confronted daily with stubborn facts that puzzle him, hits at last upon an hypothesis that relates them satisfactorily, and so, as we say, explains them. The disciple, blinded by the brilliance of the new explanation, applies it enthusiastically in one fresh field after another, but sees, unfortunately, only the facts that are favourable to what has become to him an explanatory principle which is universally valid.

6. DANGERS TO BE AVOIDED IN INTERPRETING FACTS

The relation of the facts to the patterns and philosophies which should be, but are not always, formed from studying them deserves more of our attention. A few only among us get these patterns and philosophies from an impersonal study of the facts themselves; the majority of us make use of ready-made patterns which appeal to us, and we then tend to notice such facts only as fit them.

I learned, for example, at the last educational lecture I attended that it is natural for every boy of two years of age when given a wooden hammer to wish to hit some other boy on the head with it, and that to use it for knocking pegs into a board is just one way of satisfying this blind and unconscious need for aggression. I know of no way of proving this effectively. Sometimes facts which have been correctly observed have a meaning attached to them which is valued for its own sake, and in the present instance the facts have clearly been framed to fit an explanatory principle already found useful in other fields of work.

Darwin, it will be remembered, became the great scientist he was because he recognized that he must school himself to take special notice of any facts encountered which seemed to be at variance with whatever theory had begun to take shape in his mind. If we realized oftener, as he did, that our patterns and philosophies are as likely as not to depend upon temperament and training rather than upon an objective consideration of the available evidence the sum of our knowledge of human nature would increase more rapidly.

7. THE COMPLEXITY OF HUMAN NATURE

The probability is that the patterns observable in the phenomena of life are anything but simple. Human nature cannot be satisfactorily explained in terms of popular analogies. Thus the child is not wholly a mechanism, as behaviourists appear to suggest, for we know that, as teachers, we need to do something more for our pupils than concentrate entirely in the schools upon habit-formation and the perfection of routine skill. Nor is the child wholly an organism, as is implied on the one hand by the plant metaphors of the kindergarten, and on the other hand by the jungle imagery of the psycho-analysts, for we know, too, that there is something for us to do besides providing the environment in which the human plant can grow healthily or the repressed instincts of the human animal find safe release. Nor is the school a completely human society in which the child can function freely as a completely rational being, which is what the apostles of self-determination and self-government in education would have us believe. The nature of children, as research workers should always remember, and as teachers can never forget, is not to be summed up in a formula. Simple explanations of their nature and their activities must, therefore, be suspect.

8. EDUCATIONAL RESEARCH A PRODUCT OF THE TWENTIETH CENTURY

The task before the research worker in education is to establish, bit by bit, the full truth about children and their mental processes. It is no easy task, and, moreover, it is a relatively new occupation.

It is hardly forty years since mental testing first became known, and not much more than thirty years since Binet's final intelligence scale was published. The experimental studies of the learning process and the modern methods for the diagnosis of the causes of backwardness among school pupils are no older. Twenty years ago the selection of children for higher education on the basis of ability as distinct from that of attainment had hardly begun; indeed, the scientific treatment of age-allowances for children competing for scholarships is less than ten years old, and its details are still unfamiliar to the majority of those who should know something of them. As for the scientific study of mental growth, it has, in some important directions, still to begin.

In so far as it has developed to-day research in education, as a scientific activity, owes its success to the adoption of (a) certain ideas derived from other fields of research; (b) the technique of the experimental psychologist; and (c) the mathematical methods of the statistician—in short, to its faith in scientific methods of observation, experimentation, and mathematical reasoning.

9. MENTAL MEASUREMENT

Foremost among the ideas derived from other fields and applied to education is this, that progress in science depends largely upon

measurement. But it must here be said that by the time educational research took over the belief that the mind might possibly be measurable the basis of our experimental procedure had completely collapsed—*viz.*, the basis which presupposes that the mind itself may be regarded as the sum, and nothing more, of numerous elementary processes—*e.g.*, like the discrimination of just noticeable differences in sensation or uncomplicated reaction times. We no longer believe that the mind is analysable into homogeneous and measurable parts, or even that it is directly measurable at all. Nevertheless, though we may not be able to measure a person's powers precisely and directly, we may hope to measure with varying degrees of success a good many of his performances which, after all, usually turn out to be a fairly faithful expression of his powers.

Our success in measuring human performances with accuracy will depend, of course, upon the mental level on which we are operating. Ability to discriminate between fine differences of colour, sound, texture, taste, etc., is more easily measured than the ability to write lucid and convincing English; indeed, to pretend to be able, for example, to distinguish between and to evaluate correctly three pieces of original English composition as worth, say, seventy-two, seventy-three, and seventy-four marks respectively out of a hundred is to affect omniscience.

We must also remember that what we are attempting to measure is not a relatively unvarying quantity, like the amount of substance in an iron bar or of mercury in a glass tube, but a performance which may vary in quality from day to day as the performer is in 'form' or not; and, as we know, 'form' is likely to be influenced by the mood of the moment, by ill-health, by lack of training, and a hundred and one other less tangible factors.

It follows, though it is no part of the present subject, that to place competitors in an order of merit on the strength of a single performance in anything requiring the presence of the higher mental powers may be unfair to those competitors who cannot always show their best form, and that, in any case, the grading of examination performances for the purpose of order-of-merit lists should only be done on the basis of a succession of tests consisting of a large number of questions which can be answered briefly and marked objectively.

10. THE STANDARDIZED OBJECTIVE TEST

As was first pointed out by Sir Francis Galton, the pioneer of the 'mental testing' movement, the research worker in the realm of mind is like an engineer prospecting for ore. He may make a few big borings at certain isolated spots and at each boring get what evidence he can of the value of the suspected vein that lies beneath; or he may make a large number of less extensive tappings, in this way getting smaller but more numerous samples from beneath a greater area of surface. With good luck he may learn just what he wants by the former method, but the latter method has usually more to commend it.

Applied to educational research, the method of frequent sampling over an extended field—"sinking shafts in the mind at many points"—is the method of the objective test, in which a large number of questions are framed to produce short answers that can only be right or wrong. When such tests have been given to a large number of persons and standardized they then provide us with the units without which objective measurement is impossible. Indeed, the standardized objective test is an indispensable instrument of educational research.

Thus a good standardized objective test, which is the result of much careful research in itself, is able to give us a much larger and better sample of a person's knowledge, judgment, or skill than can be obtained by any other type of examination. For this reason it may be accepted as valid for the purpose for which it is used; otherwise it would at once be discarded. It is reliable; that is, it produces, within a small margin of error, consistent results. It provides us with norms, or standards, in terms of which individual performances may be correctly evaluated because of the large numbers of examinees chosen at random for standardization purposes. And it is so designed as to be easy to administer and mark.

Objection has been made that such tests do not provide any measure of the quality, as distinct from the quantity, of a person's knowledge, or of his power in selecting relevant information and then marshalling it effectively.

Those who use this argument rarely understand the obvious answer to it, which is that the objective tester, being fully aware of the difficulty of any direct measurement of ability in most school subjects and activities and of the fallibility of the examiner who relies on the traditional essay type of answer to a few hit-or-miss questions for his data, measures what he wishes to measure indirectly—*i.e.*, through numerous short sample performances—just as we measure many physical phenomena, though, of course, with much greater accuracy—*e.g.*, the speed of a motor-car by means of a moving hand on a stationary dial. The result justifies the method, and the critics have not been able to go beyond the *a priori* grounds of their arguments and demonstrate by results that the soundly constructed objective test fails in its purpose.

11. THE DISTRIBUTION OF ABILITIES

A further consideration of objective tests would naturally bring us into the province of the statistician, without whose aid research in education is unlikely to bear sound fruit. The physicist, as we all know, can measure in a relatively simple manner most of the things with which he deals because he finds it possible to stage experiments in which grossly disturbing factors can be ruled out. The research worker in the biological sciences is not always so fortunate. Organisms are more complex than mechanisms, and disturbing factors less easily isolated. Moreover, an element in a social situation may operate differently, not only upon different persons, but also upon the same person at different times, so that it is impossible to say that the same causes will always have the same effects.

However, the essence of the statistical method, whether used in the physical or biological sciences, is that a large number of samples of the thing to be studied are gathered at random, and by appropriate mathematical means the disturbing influence of minor factors, not easily taken full account of, are as far as possible ruled out.

Of the methods of procedure taken over by the research worker in education from the statistician, two of the most important concern (a) the distribution of human abilities and (b) their relation to one another.

It was just over one hundred years ago that a Belgian astronomer and statistician, Quetelet, making use of the normal curve of error (introduced one hundred years previously to his time by the Frenchman, de Moivre), suggested that a good many physical and mental qualities distributed among men and women might be represented on the normal bell-shaped Gaussian curve (or, as following Karl Pearson, we should say now, on one of the same "family" of frequency curves). On such curves the heights indicate the numbers of individuals with given amounts of the ability measured, and usually show a clustering of average measures of the ability round the line bisecting the curve, with a gradually decreasing number of cases in the regions towards the extremes.

Sir Francis Galton, in this country, took up the idea that mental traits might, like height and weight, be found to be distributed "normally"; and so frequent has been the verification of this hypothesis since, wherever ability has been measured (via performance, of course), that in the examination field any graphical representation in terms of marks of the results of a test given to large numbers of persons selected at random which does not approximate to normal becomes suspect, and we attribute it either to defects in the examination itself or to its use with examinees who are not representative of a complete population.

12. EXAMINATION MARKS

When we set an examination to large numbers of pupils representative of the complete school population the question whether the normal curve will fit the results must depend upon whether the questions are designed to match the abilities of the average candidate or not. We may, of course, deliberately frame examinations which give results that show examinees bunched together without much discrimination at one end of the curve with a corresponding thinning out at the opposite end. Thus we aim at such an arrangement for the selection of children for special purposes—e.g. places in secondary schools, and also, where they exist, in schools for mentally defective children—and a good test will show the candidates strung out finely over whichever border-line is selected.

But in all cases where the results do not fit the normal curve as might have been expected we are able to use the variations that come to light as a jumping-off ground for the discovery of factors (i.e., those disturbing the 'normal' result) which might not otherwise have been suspected to exist.

The fact also that the extent to which a curve spreads about its 'mean' may be measured exactly has enabled us to express any given distance from the mean of a normal curve in terms of the standard deviation—*i.e.*, with the standard deviation as the unit—or, as we say, in standard measure.

Now it is usually found, when children take an examination of the traditional kind in Arithmetic and English for the purposes of secondary school entrance, that the English marks tend to be spread less widely than the Arithmetic marks, so that when the raw scores are taken together a child who is good at Arithmetic but average in English will always beat the child who is average at Arithmetic but good in English. Yet, obviously, to be third on the list in English with a mark of fifty-five is to have done relatively better than some one else who is tenth on the Arithmetic list with a higher mark of sixty-five.

To-day, thanks to the statistician, we can express the mark of fifty-five in a good English examination on the same scale as a mark of, say, sixty-five in a good Arithmetic examination, in which case it will assume the proper relative value.

At the present time every satisfactory competitive examination in more than one subject is followed by a scientific scaling of the raw scores, the assumption being, of course, that ability in each subject examined is distributed normally and may be expressed in standard measure—*i.e.*, in terms of the same standard deviation.

13. AGE-ALLOWANCES

In recent years, too, mainly owing to the work of Professor Godfrey Thomson, of Edinburgh, we are also enabled to make proper allowances for age handicaps in special place examinations in which the older child would otherwise be placed at an unfair advantage over the younger ones. A child grows a great deal in body and mind in twelve months, so that it is unfair to judge a child of, say, ten years seven months by the same standards as his competitors of, say, eleven years six months. Before age-allowances were made on a proper basis it was not uncommon to find that the vast majority of junior scholarships went to the oldest children in the age group examined.

Given sufficient candidates, it is possible to construct frequency curves for all the children born in a given month, and after finding that the average 'standard' mark obtained by children of the different months in a year tends to rise gradually, to smooth the line of averages and then award the same numerical value to each average monthly score, with appropriate standard measure adjustments for scores above and below the average.

It is agreeable to record that many enlightened educational authorities in this country have begun to conduct their examinations for special places in secondary schools with due regard for scientific principles, but the recent remark of an American¹ is still justified, that whereas his countrymen have grown used to the scientific approach

¹ K. J. Holzinger, in the *Twenty-seventh Year Book* (Part 2) of the National Society for the Study of Education, p. 294 ("The Scientific Method in Education").

to educational problems and to mathematical devices of various kinds, "this situation is in sharp contrast to the one that exists in England, where only a relatively small percentage of teachers and administrators are familiar with such scientific tools."

Statistical knowledge and technique have also enabled us to construct and standardize objective tests of achievement in the principal school subjects. Most of the tests in the appendices that follow may be used for this purpose. They will provide scales and norms by means of which we may measure the progress of our pupils from year to year.

14. STAGES OF MENTAL GROWTH

Two attitudes towards objective testing may, therefore, usefully be distinguished at this stage: (a) that of the administrator anxious to grade children as accurately as possible for educational purposes; and (b) that of the parent and the teacher anxious to know whether the children for whom they are responsible are developing normally or not.

Most teachers who have used individual intelligence tests will have concluded that the allocation of certain tasks to fixed ages in an intelligence scale like Binet's implies that genetic sequence is regular in the mental as in the bodily realm, that certain related tasks are usually mastered in a definite order, and that the performance of these tasks is more a matter of internal development or maturation than of ordinary schooling. Thus babies babble before they talk, crawl before they walk, measure distance in imagined movement before they can do so visibly, make drawings of objects in terms of what they know before they do so in terms of what they actually see, ascribe all activity in the physical world to the operation of a personal force before distinguishing impersonal cause and effect, and so on.

It is, of course, a familiar idea that development is a continuous process, and that there is a characteristic curve of most forms of growth, sigmoid in shape (like a sprawling letter S), which has been found to fit the facts whenever sufficient data have been accumulated. My colleagues, Messrs C. A. Richardson and C. W. Stokes, have amply demonstrated this in respect of verbal intelligence, and submitted clear and convincing proof of its slow beginning in early infancy, followed by a rapid rise through the schooling period, with, finally, a gradual tailing off towards the end of adolescence and the onset of maturity.¹

However, though growth may be regarded from one point of view as continuous in the sense that no one can point to an age at which new characteristics suddenly emerge, there are, nevertheless, broad and distinguishable differences between children whose ages differ by several years. The Hadow reorganization of schools, designed to provide separately for infants, juniors, and seniors, is evidence of our acceptance of this idea even if we are far from understanding how the capacities and needs of children differ in certain directions from stage to stage.

Fortunately, this reorganization has compelled us to consider the nature of children at different ages a little more carefully. In consequence,

¹ *Growth and Variability of Intelligence* (Cambridge University Press).

we are beginning now to rid ourselves of the cruder of our former beliefs. It used to be assumed, for example, that the sooner a teacher began formal instruction in reading, writing, and arithmetic the sooner the child would master them. But we know now that no child is ready for formal instruction until (a) he has passed through the period of aimless play to that of purposive play, in which the desire to complete a self-imposed task has begun to function, and (b) he has reached a certain mental age as determined by individual intelligence tests. It was thought, too, that children of junior school age were incapable of reasoning, and had better, therefore, be employed in acquiring mechanical skill and routine knowledge, in this way mastering tools and materials for rational use later. The performances of junior children in intelligence tests demanding reasoning ability have disproved our earlier theories in this direction. That there is an optimum mental age for beginning certain kinds of instruction is becoming clear, and the teacher who mistakingly anticipates it will often find by experience that his error is irretrievable.

Thus, if we find, as we do, that to the child of eight a knife is a thing you cut with, a chair a thing you sit on, and so on, it is clearly futile to teach at this age any subject in which an appreciation of logical definition is necessary. For the same reason, science as such, the history of political and religious controversy, and much economic geography are out of place in a junior (and often a senior) school curriculum.

In the past fifteen years a great deal of systematic and close observational work has been done with a view to elucidating the stages of mental growth, so far principally with infant children. The work of Arnold Gesell, whose work on *The Mental Growth of the Pre-school Child* appeared in 1925, has been followed by a number of similar studies, among which Piaget's work in Geneva,¹ Charlotte Bühler's work in Vienna,² and Dr Susan Isaacs's work at the Malting House School, Cambridge,³ have been, perhaps, the most conspicuous.

The essence of the method employed by all these workers is to observe children in significant life situations and make systematic records of their behaviour. As a result, they are able to give us typical pictures of children in different stages of growth behaving as they do in everyday life, rather than as they may in an artificial test situation.

Since observation of this kind has been directed to infant behaviour in various directions, we are now in a position to attempt charts which will show the early stages of development in many important directions—e.g., in sense activity, intelligence, bodily control, manipulative ability, emotional poise, and social adaptability.

The test material that follows was devised by the author as a help towards the elucidation of the many different forms which linguistic development may take. It is hoped that it will also be of some help to others anxious to understand in greater detail the general problem with which we have been dealing in the present book.

¹ *Language and Thought of the Child* (London, Kegan Paul, 1927).

² *From Birth to Maturity* (London, Kegan Paul, 1935).

³ *Intellectual Growth in Young Children* (London, Routledge, 1930).

APPENDIX II

TEST MATERIAL

I. VOCABULARY TESTS¹

INSTRUCTIONS FOR VOCABULARY TESTS 1-5

1. The time allowed for each test should be 50 minutes.
2. The children should use pencils rather than pens.
3. The words in the questions should not be used in the answers.
4. It is advisable to give the tests on separate days.
5. The children should be told that (a) in Test No. 2 more than one word may occasionally be needed for the answer, and (b) all the answer-words to Test No. 3 end in -ing.

1. One Hundred Common Names

Parts of the Body. What do we call the (1) part of the leg above the knee; (2) middle part of the eye; (3) parts of the nose through which we breathe; (4) front part of the leg below the knee; (5) bottom part of the back of the neck?

Trades. What do we call a man who (6) makes clothes; (7) mends gas-pipes and water-pipes; (8) makes wheels for carts and carriages; (9) makes cakes and sweetmeats and sells them; (10) is paid to drive a private motor-car?

Rooms. What do we call (11) a reading room with a great many books in it; (12) a room at the top of a house just under the roof; (13) a back kitchen where the washing-up is done; (14) a room where clerks and typists work; (15) a room specially made for storing the household food?

Receptacles. What do we call (16) a metal or wooden box for keeping small quantities of tea in; (17) a glass for drinking water out of; (18) a large open-work packing-case for oranges, eggs, etc.; (19) a tank (usually in the roof) for supplying water to the rooms of a house; (20) a wooden or metal box for keeping small supplies of coal in?

Tools. What do we call the tool used for (21) driving nails into wood; (22) grasping and holding lumps of coal; (23) cutting grass and clipping hedges; (24) levelling the surfaces of pieces of wood; (25) what do we call a large blunt needle for drawing tape, ribbons, etc., through hems?

Shopkeepers. What do we call a man who keeps a shop for the sale of (26) such things as currants, rice, sugar, tea, coffee, and cocoa; (27) apples, oranges, and lemons, but not vegetables; (28) cigarettes, matches, pipes, and smokers' outfits; (29) such articles as microscopes, spectacles, lenses, and opera-glasses; (30) writing paper, pens, pencils, ink, etc., but not newspapers or stamps?

¹ The Vocabulary Tests (1-5) are reprinted here by kind permission of the University of London Press, Ltd. (St. Hugh's School, Bickley, Kent), from whom copies may be obtained (25 copies, 2s.; 100 copies, 6s. 6d.; carriage extra). Key 6d.

Dwellings, etc. What do we call (31) a wooden shelter made for a dog to sleep in; (32) a place made for a horse to feed and sleep in; (33) a place where motor-cars may be kept; (34) a large inn (or public-house) specially fitted up for travellers and holiday-makers; (35) a one-storey dwelling-house?

Openings. What do we call (36) a hole accidentally made in a bicycle tyre; (37) openings made for pennies in an automatic 'sweet' machine; (38) the passage for smoke running up through a chimney; (39) the holes in a net or sieve; (40) the small holes in a sheet of postage-stamps separating one stamp from another?

Motor-cars. What do we call (41) the part which the driver uses when he wants to stop; (42) the big bright lights seen at the front of a motor-car at night; (43) the frame of glass which the driver looks through when he is driving; (44) the rubber covers fitted around the rims of the wheels; (45) the bars which run out from the middle of the wheel to the rim?

Head-dress. What do we call (46) the 'hat' which a policeman wears; (47) the covering which a baby wears on her head and tied under her chin; (48) the covering which a woman sometimes wears on her head when doing housework; (49) the round hard black felt hat often worn by men; (50) the part of a cloak made to turn up, when required, over the head?

Beds and Bedding. What do we call (51) the part of the bed which is stuffed with hair or flock; (52) the top single sheet or bedspread sometimes used to cover the bed; (53) the long under-pillow on a bed; (54) the little wheels fitted to the legs of a bed to make it easy to move; (55) the framework of a bed (i.e., the part left after all the bedclothes have been taken off)?

Assemblies. What do we call a number of people (56) gathered together to hear a concert; (57) gathered together to go for a picnic or outing; (58) gathered together at a church service; (59) selected to sing together; (60) gathered together in a disorderly crowd?

Flowers and Plants. What do we call (61) the brightly coloured parts of a flower; (62) the lines or ribs on the leaves of a plant; (63) the powder or dust found in flowers; (64) the slender twining parts which some plants have to help them to climb; (65) a small woody tree-like plant or bush?

Household Fittings. What do we call (66) the floor of the fireplace in front of the fire; (67) the fittings on which doors hang and swing; (68) the upright supports for the hand-rail in a staircase or balcony; (69) the set of steps in a staircase; (70) the sloping beams in a roof?

Books. What do we call (71) the pictures and drawings in a book; (72) the sheets of paper which we turn over, one by one, in reading; (73) the lettering in a book; (74) the part which holds the cover to the rest of the book; (75) the page at the beginning of a book which tells us in large letters what the book is called?

Fruits and Seeds. What do we call (76) the middle part of an apple with the pips in it; (77) the skin of an apple or pear; (78) the inner part of a nut or plum stone; (79) the fleshy part of fruits; (80) the green cases, or shells, in which peas and beans grow?

Parts of a House. What do we call (81) the entrance-passage sometimes found in a house; (82) a window set in a roof or ceiling; (83) the under part of a roof overlapping the walls; (84) the level flooring at the top of a staircase; (85) a window which stands out in front of the rest of the house?

Materials. What do we call (86) the liquid metal often found in thermometers; (87) the metal which is most commonly used for wedding-rings; (88) the metal, or rather alloy, from which pennies are made; (89) the metal from which the best knife-blades are made; (90) the reddish-brown metal used for making wires which have to carry electric currents

Divisions. What do we call (91) the separate divisions of a railway carriage; (92) the separate divisions of the glass in a window; (93) the main divisions or sections of a story-book; (94) the portions of a bottle of medicine (e.g., teaspoonfuls) as we take them; (95) the parts of a sum of money which have to be paid regularly?

Measuring and Testing. What do we call the instrument used for (96) measuring how hot something is; (97) testing whether a table surface is quite flat; (98) measuring the amount of gas or electricity which has been used; (99) measuring how heavy things are; (100) measuring cloth, etc. (i.e. the narrow band of material marked in feet and inches)?

2. One Hundred Common Class Names

Things in General. What name can we give to (1) iron, stones, wood, and ice (but not water); (2) rocks, iron-ore, and coal; (3) milk, water, ink, and vinegar; (4) salt, soda, and acids. (5) air, motor-car fumes, oxygen, etc.?

Living Creatures. What do we call (6) cows, calves, and sometimes sheep and pigs as well; (7) men, women, and children; (8) ants, bees, and wasps; (9) rats, mice, and fleas; (10) fiogs, snakes, and crocodiles?

Other Living Creatures. What do we call (11) sparrows, canaries, and robins; (12) pheasants, partridges, and grouse (but not sparrows); (13) ducks, turkey, geese, and other domestic fowls, (14) sharks, cod, and plaice, (15) oysters, mussels, and cockles?

Food. What name do we give to (16) beef, mutton, and pork; (17) butter, cheese, milk, and eggs; (18) cabbages, turnips, carrots, and potatoes; (19) kippers and bloaters (but not plaice); (20) tarts, cakes, and jellies?

Used by Cooks. What do we call (21) currants, sugar, rice, tea, coffee, and cocoa; (22) cloves, nutmegs, and pepper; (23) mustard, vinegar, and pickles; (24) butter, lard, dripping, and margarine; (25) cucumber, lettuce, and radishes (when cut and seasoned)?

Household Necessities. What do we call (26) cups, saucers, plates, and dishes, (27) pots, pans, kettles, and jugs; (28) bags, basins, boxes, and other containers; (29) poker, tongs, and shovels, (30) knives, scissors, and razors?

Household Equipment. What do we call (31) chairs, tables, and chests of drawers; (32) benches, chairs, and stools, (33) sheets,

table-cloths, and towels; (34) blankets, sheets, and pillow-cases; (35) materials such as casement-cloth and calico?

Things Worn. What name do we give to (36) coats, frocks, stockings, and underwear; (37) coats, macintoshes, jumpers, and skirts (but not shoes); (38) boots, shoes, slippers, and goloshes; (39) helmets, breastplates, and coats of mail; (40) reins, saddles, and bridles?

Personal Belongings. What do we call (41) rings, bangles, ear-rings, and fancy hair-slides; (42) medals, war-ribbons, and stars worn by soldiers and sailors; (43) diamonds, rubies, sapphires, and emeralds; (44) eau-de-cologne and lavender-water; (45) dolls, whistles, rattles, marbles, and other playthings?

Useful Things. What name do we give to (46) hammers, saws, planes, and chisels; (47) swords, spears, and revolvers; (48) scales, thermometers, and foot-rules; (49) watches, clocks, sun-dials, and hour-glasses; (50) telescopes, microscopes, and opera-glasses?

Drinks. What do we call (51) tea, coffee, cocoa, and milk; (52) whisky, ale, and stout; (53) whisky, brandy, gin, and rum; (54) port, champagne, claret, and burgundy; (55) ginger-beer and soda-water?

Disorders and their Treatment. What do we call (56) diphtheria, scarlet-fever, measles, and influenza (but not rheumatism); (57) cuts, gashes, scalds, burns, and bruises; (58) medicines, drugs, plasters, and pills; (59) carbolic powder, Condy's fluid, and chloride of lime; (60) castor-oil, senna-tea, and syrup of figs?

Combustion. What name do we give to (61) lamp-light, gas-light, and electric light; (62) coal, coke, logs, and peat; (63) dynamite, gun powder, and cordite; (64) darts, arrows, bullets, and shells; (65) squibs, crackers, and rockets?

Architecture. What do we call (66) houses, factories, theatres, and shops; (67) factorics, mills, and forges; (68) houses, cottages, bungalows, flats, and other dwellings; (69) churches, chapels, and cathedrals; (70) schools, workhouses, and hospitals?

Materials. What name do we give to (71) gold, tin, lead, copper, and silver; (72) brass, bronze, gun-metal, and solder; (73) wooden planks (*e.g.*, of oak, ash, walnut, or mahogany); (74) bricks, tiles, slates, and mortar; (75) flower-pots, tiles, and mugs?

Vegetation. What do we call (76) roses, dandelions, daisies, and buttercups; (77) hyacinths, crocuses, tulips, and daffodils (but not roses); (78) cabbages, trees, and shrubs; (79) wheat, barley, oats, and other kinds of corn or grain; (80) oranges, lemons, apples, and bananas?

Things We Do. What name do we give to (81) motoring, golfing, dancing, and concert-going; (82) cricket, football, tennis, and hockey; (83) firework, photography, bee-keeping, and stamp-collecting; (84) walking, running, swimming, and drill; (85) preaching, teaching, doctoring, practising at law, etc.?

Communications. What do we call (86) rivers and canals; (87) roads, streets, and lanes; (88) vehicles for carrying passengers, like buses and trains; (89) trams, buses, and motor-cars in motion; (90) letters, postcards, notes, and other written messages?

Mathematical Terms. What do we call (91) the directions: N., E.,

S., W., N.E., N.W., S.E., and S.W.; (92) length, breadth, thickness, area, and volume; (93) a pint, a foot, and a pound; (94) hours, minutes, and seconds; (95) circles, triangles, and rectangles?

Miscellaneous. What do we call (96) kings, emperors, and presidents; (97) names like Smith, Brown, and Robinson (but not John or Mary); (98) the English, the Irish, the French, and the Germans; (99) Europe, Asia, Africa, America, and Australia; (100) justice, prudence, temperance, and fortitude (but not dishonesty).

3. One Hundred Common Verbs

Looking and Seeing. What do we call looking (1) through a small hole or narrow slit in a curious manner; (2) with the eyes slightly turned in different directions; (3) long and steadily, but not rudely, at something; (4) stupidly at something with wide-open mouth; (5) at a person and at once knowing him again?

Getting and Holding. What do we call getting (6) or gaining a prize in a competition; (7) something by hard work; (8) something offered by taking it suddenly and rudely; (9) or grasping something forcibly and firmly (*e.g.*, a runaway horse); (10) things one at a time in order to complete a set?

Walking. What do we call walking (11) lamely as though hurt; (12) or, rather, moving along on one foot; (13) without lifting the feet properly; (14) with very long steps; (15) proudly and stiffly (*e.g.*, like a peacock)?

Breaking. What do we call breaking (16) with a loud noise (*e.g.*, like a bladder)? (17) lengthwise, like a stick along the grain; (18) sharply into two pieces (*e.g.*, like a ruler); (19) or rather, partly breaking, as a cup or saucer often does; (20) up slowly, like a lump of earth, into tiny particles?

Moving, Round and Round. What do we call moving (21) round and round like a wheel fixed at the centre; (22) round and round like the blood in our bodies; (23) round and round like a top; (24) round and round like the earth around the sun; (25) what do we call twirling the thumbs round and round one another?

Speaking. What do we call speaking (26) to some one at a distance in a very loud voice; (27) with the lips only, so as not to be overheard; (28) a great deal, and without stopping to think; (29) so badly as not to be properly heard; (30) so that every 's' sounds like 'th'?

Coming and Going. What do we call (31) coming at last to a place which we set out to reach; (32) leaving home and setting off on a journey; (33) coming nearer or going nearer to an object or person; (34) gradually passing away out of sight; (35) suddenly or strangely passing away out of sight without leaving a trace behind?

Eating. What do we call (36) eating with very small bites; (37) greedily eating more than can be digested; (38) grinding food into tiny pieces with our teeth; (39) crushing biscuits noisily with our teeth; (40) hurriedly swallowing our food in lumps?

The Running of Water. We say that water (41) falling slowly in drops, one at a time, is . . .; (42) running slowly in a very thin

stream is . . . ; (43) running noisily out of a bottle is . . . ; (44) pouring out of a pipe in a swift stream is . . . ; (45) When we scatter water in thousands of tiny drops through the nozzle of a hose-pipe we say that we are . . . ?

Taking and Taking Away. What do we call taking (46) one number away from a larger number; (47) one sum of money away from a larger sum of money; (48) or, rather, picking a flower from a plant; (49) willingly something which has been offered; (50) something for oneself as it is being passed to another person?

Getting and Losing Colour. What do we call (51) giving a piece of cloth an entirely new colour; (52) taking the colour completely out of a fabric; (53) spoiling cloth with spots of ink or fruit juice; (54) the gradual losing by cloth of some of its colour; (55) giving a clear liquid just a touch of colour?

Drinking. What do we call drinking (56) a few drops at a time; (57) as a cat drinks; (58) every drop in a cup or glass; (59) greedily and noisily; (60) or, rather, washing out the throat noisily without swallowing anything?

Writing. What do we call (61) writing hurriedly and carelessly; (62) making marks that look like bad writing (e.g., as a baby often does); (63) writing in imitation of a pattern set before us; (64) forming our letters like those in a 'reading-book'; (65) writing our names at the end of a letter or statement?

Shaking. We say that (66) a person whose body is being moved backward and forward is . . . ; (67) a person shaking with cold is . . . ; (68) a person shaking with fear or excitement is . . . ; (69) grass or corn which is being moved to and fro by a breeze is . . . ; (70) Leaves which are moving noisily to and fro on a tree are . . . ?

Noises. What do we call (71) shutting a door with a loud bang; (72) striking a table or a desk lightly with a pen or pencil; (73) striking a person's knuckles; (74) making breathing noises during sleep; (75) holding our breath and then letting it out wearily?

Noises made by Animals. What do we call the noise made by a (76) dog when it calls loudly; (77) sheep when it *baas*; (78) horse when it calls; (79) pig when it is hurt; (80) donkey when it calls loudly.

Annoying and Hurting. What do we call (81) poking fun at a person playfully; (82) saying nasty and untrue things about a person; (83) speaking to a person rudely and offensively; (84) breaking in upon a person who is speaking; (85) unsettling a person who wants to go on working?

Burning. What do we call burning (86) with a big bright flame; (87) very feebly and unsteadily; (88) like a live coal with bright heat but no flame; (89) with plenty of smoke but no flame; (90) and sending out numerous fiery particles?

Falling. What do we call falling (91) gradually down through water; (92) awkwardly, like some one pushed downstairs; (93) forward through catching one's foot in something; (94) suddenly, like a house made of playing cards; (95) through stepping on something that causes us to stumble and lose our balance?

Divisions. What do we call (96) giving things away but keeping

some for ourselves; (97) giving things away to a number of people but keeping none for ourselves; (98) placing things apart that are in close contact; (99) undoing or unfastening something from what it is attached to; (100) cutting something completely away from what it is joined to by Nature?

4. One Hundred Common Adjectives (List A)

Big Things. Which word among those below would best describe (1) a tree bigger and taller than other trees; (2) a parcel awkwardly big for its weight; (3) a tool too big and heavy for us to lift and use easily; (4) a rock or stone almost too big and heavy to be moved; (5) a distance or quantity almost too great to be measured?

Clumsy, massive, infinite, immense, rugged, gigantic, strong, sturdy, bulky, unwieldy.

Pleasant Things. Which word among those below would best describe (6) things to eat that are nice and sweet and tasty; (7) objects that are extraordinarily beautiful and cleverly made; (8) features that are fine and strong and pleasing; (9) the movements of a person who walks or dances well; (10) a beggar pleased at receiving a gift of money?

Savoury, handsome, fascinating, romantic, sterling, exquisite, delicious, buoyant, grateful, graceful.

Little Things. Which word among those below would best describe (11) a person very much smaller and shorter than other people (e.g., Tom Thumb); (12) an animal that is undersized and underfed; (13) a small-scale model of some object (e.g., a tiny portrait or rifle); (14) a thing so small as not to be visible to the naked eye; (15) a description full of small and rather unimportant details?

Puny, faint, unhealthy, microscopical, infinite, graphic, stocky, miniature, minute, diminutive.

Unpleasant Things. Which word among those below best describes (16) objects that are unpleasing to the eye; (17) remarks which we dislike because they are rude or unfair; (18) ignorance that almost makes a teacher despair; (19) musical notes that are harsh and unpleasing when heard together; (20) duties we dislike and are unwilling to undertake?

Cunning, grating, awkward, deplorable, useless, evil, irksome, ugly, discordant, offensive.

Things that Last. Which word among those below best describes (21) cloth that will stand a great deal of hard, rough wear; (22) a complaint or disease of long standing; (23) scars that will remain on the body for a lifetime; (24) a plant that reappears regularly year after year; (25) pencil marks that cannot be rubbed out?

Annual, chronic, bitter, perennial, durable, double-width, permanent, hardy, deep, indelible.

Things that Don't Last. Which word among those below best describes (26) a building intended to last only for a very short time; (27) stories that are soon over; (28) arrangements not intended to be kept to when circumstances change; (29) foodstuffs that are liable to speedy decay, especially in transit; (30) insects and flowers that never live for more than a day or two?

Wooden, provisional, temporary, unsatisfactory, keen, ephemeral, perishable, stale, daily, brief.

New Things. Which word among those below best describes (31) fruit and vegetables just gathered from the garden; (32) events that have occurred during the past day or two; (33) things that are new and interesting and rather unusual; (34) things of to-day as distinguished from those of long ago; (35) clothes repaired and made to look like new?

Dewy, renovated, remembered, recent, fresh, modern, bright, novel, exciting, lovely.

Old Things. Which word among those below best describes (36) times before the birth of Jesus Christ; (37) coins, words, and stamps that have long since gone out of use; (38) people who have lived a very long time; (39) times that existed before written records were begun; (40) beliefs and customs that are handed down from generation to generation?

Worn-out, historical, original, ancient, prehistoric, obsolete, dark, aged, traditional.

Red Things. Which word among those below best describes (41) the deep red colour of the blood; (42) red which has had blue mixed with it; (43) the healthy red colour often seen in children's cheeks; (44) the complexion of a person who has spent all his life out of doors; (45) the brilliant red colour of poppies, runner-bean flowers, and soldiers' coats?

Orange, tawny, crimson, purple, rosy, carmine, swarthy, ruddy, scarlet, azure.

Things of Other Colours. Which word among those below best describes (46) the brilliant blue of the unclouded summer sky; (47) the brownish-yellow or greenish-yellow of soldiers' clothes; (48) something shining with all the colours of the rainbow; (49) sun-burnt complexions that are almost black; (50) horses and ponies of two different colours irregularly arranged?

Emerald, purple, cinnamon, tawny, khaki, piebald, swarthy, heliotrope, iridescent, azure.

Things that Stand Alone. Which word among those below best describes (51) a shoe for the left foot that has no right shoe to match it; (52) an event or object quite different from every other event or object; (53) a person who feels that no one wants his company; (54) a person placed where he is cut off from communication with others; (55) a person who prefers to live by himself?

Unlucky, sulky, strange, isolated, solitary, unique, deaf, lonely, insane, odd.

Things Taken Together. Which word among those below best describes (56) a number that could come under the heading of "not very many"; (57) articles that it would take some little time to count; (58) towns that are thickly inhabited; (59) things not more than four or five in number; (60) a number beyond all counting or even imagining?

Populous, fractional, infinite, various, numerous, massive, few, several, difficult, industrial.

Clear Things. Which word among those below best describes (61) handwriting clear enough to be easily read; (62) glass clear enough to be easily seen through; (63) explanations clear enough to be readily understood; (64) something so plain that there is no excuse for missing it; (65) distant objects that stand out separately and clearly?

Large, obvious, transparent, solid, massive, legible, lucid, brief, distinct, unusual.

Warm Things. Which word among those below best describes (66) water that is slightly warm; (67) weather that is heavy and hot; (68) substances when seen glowing with white heat (e.g., a gas mantle); (69) heat that severely dries up the earth and withers plants and flowers; (70) a feeling of intensely warm devotion to a great cause?

Dreadful, tepid, frigid, parching, dry, fervent, unusual, incandescent, mild, sultry.

Peaceful Things. Which word among those below best describes (71) a room where we can be free from noise and interruption; (72) the weather after a severe storm; (73) people who rarely show temper or excitement; (74) the hours at night when no sound of any kind can be heard; (75) the surface of a pond quite without a ripple?

Rare, calm, polite, placid, pacified, silent, warmed, quiet, unruffled, inert.

Things Heard. Which word among those below best describes (76) whispering that can be plainly heard; (77) sounds that seem to go right through us; (78) a wind that blows in sudden and furious bursts; (79) harsh scraping noises that set the teeth on edge; (80) a wind that sounds much worse than it really is?

Deafening, rude, audible, gusty, disturbing, grating, piercing, violent, blustering, discordant.

Good Things. Which word among those below best describes (81) climates that help people to keep well; (82) food that is plain but good; (83) warnings or punishments that make people go straight; (84) drill that is intended to correct some bodily defect; (85) regulations intended to prevent diseases due to dirt and decay?

Strict, remedial, brisk, regular, salutary, nice, wholesome, healthy, tasty, sanitary.

Things of Little Value. Which word among those below best describes (86) details that have little or no meaning for us; (87) cheap and badly made articles which it is a waste of money to buy; (88) matters not worthy of anyone's serious attention; (89) efforts that

have no results as far as we can see; (90) amusements that are rather silly and unsuited to serious people?

Absurd, insignificant, plain, weak, trivial, trashy, minute, futile, fragile, frivolous.

Well-known Things. Which word among those below best describes (91) acts we have learned to repeat over and over again without thinking; (92) faces and scenes which we know immediately we see them; (93) tunes which we have heard so often that we have grown tired of them; (94) friends whom we know thoroughly well and with whom we share our secrets; (95) clothes worn by well-dressed people?

Loving, lazy, habitual, familiar, pleasing, striking, fashionable, hackneyed, intimate, old-fashioned.

Productive Things. Which word among those below best describes (96) soil of good quality, capable of producing heavy crops; (97) soil that actually has produced good crops; (98) authors who publish great quantities of work in a short time; (99) rivers and lakes rich in fish; (100) supplies of food as large as we are likely to need?

Healthily, teeming, sandy, fruitful, fertile, excessive, plentiful, prolific, deep, clever.

5. One Hundred Common Adjectives (List B)

Strength. Which word among those below best describes a person who is (1) short in stature but able to stand the strain of heavy work and illness; (2) strong and active and always, as we say, 'on the go'; (3) big and strong in body and sound in mind; (4) able to stick at a job in the face of opposition; (5) well-developed in his limbs and capable of great efforts?

Fearless, muscular, upright, robust, handsome, sturdy, energetic, stupid, persistent, healthy.

Weakness. Which word among those below best describes a person who is (6) weak in every way on account of ill-health or old age; (7) easily upset by strange or sudden noises; (8) not strong enough to do without careful nursing; (9) powerless in one or more of his limbs on account of illness or shock; (10) easily overcome by temptations?

Spoiled, feeble, delicate, sinewy, foolish, paralysed, pale, thin, weak-willed, nervous.

Activity. Which word among those below best describes a person who (11) takes a great deal of trouble over everything he does; (12) is always hard at work; (13) is big in his own eyes and is fussy about any small duties he undertakes; (14) puts all his heart and soul into work which he values very much; (15) is always ready to take risks and launch out on new undertakings?

Zealous, enterprising, decided, officious, painstaking, stupid, industrious, firm, cautious, shrewd.

Inactivity. Which word among those below best describes a person who (16) can work if he likes but does not take the trouble to do so; (17) is slow in setting about any kind of job; (18) won't take the trouble either to work or even think; (19) is feeble and tired in all his movements; (20) is slow and heavy, alike in mind and body?

Stupid, tired, dilatory, sluggish, dull, languid, lazy, feeble, indolent, docile.

Cleverness. Which word among those below best describes a person who is (21) clever enough to understand at once what he is wanted to do; (22) clever enough to hide what he is about to do; (23) clever in thinking out fresh ways of doing things; (24) clever and quick in understanding character; (25) clever enough always to find his way out of a difficulty?

Deceitful, intelligent, resourceful, ingenious, suave, modest, cunning, brilliant, strong, shrewd.

Stupidity. Which word among those below best describes a person who (26) is simple enough to believe anything he is told; (27) is too mentally weak or silly to earn his own living; (28) is always doing something silly through lack of thought or judgment; (29) lacks life and spirit; (30) harbours silly fears and beliefs about things he does not understand?

Imbecile, frail, inert, foolish, dull, superstitious, pious, credulous, strange, absurd.

Honesty. Which word among those below best describes a person who (31) can be trusted to do his duty whatever happens; (32) (acting as a judge or referee in a dispute) is fair to both sides; (33) is most anxious to do his duty as thoroughly as he can; (34) says what he feels and thinks without fear or reserve; (35) is honest and open in all that he does?

Strict, impartial, reliable, straightforward, conscientious, heroic, willing, nice, amiable, outspoken.

Trickery. Which word among those below best describes a person who (36) steals and cheats whenever he has the chance; (37) deliberately misleads people either by word or action (or both); (38) makes false statements which are intended to sound true; (39) deliberately passes off bad articles for good articles; (40) pretends to possess worthy feelings which he lacks?

Brazen, fraudulent, mean, plausible, deceitful, vain, dishonest, insincere, eloquent, bogus.

Bravery. Which word among those below best describes a person who (41) has the spirit to attack some one much bigger and stronger than himself; (42) shows great determination in carrying through difficult undertakings; (43) goes through danger and pain without flinching; (44) is gay and dashing in his bravery; (45) is agreed to be unmistakably outstanding in his bravery?

Happy, courageous, reckless, gallant, plucky, resolute, lucky, heroic, strong, boastful.

Fear. Which word among those below best describes a person who is (46) afraid of displeasing others and even of approaching and speaking to them; (47) faint-hearted and mastered by fear when in danger; (48) uneasy about what may happen to himself or to his friends; (49) deliberately false to his friends in times of trial; (50) acting impulsively and foolishly under the influence of great fear?

Upset, pale, panic-stricken, timid, inanimate, absurd, cowardly, tame, apprehensive, treacherous.

Kindness. Which word among those below best describes a person who is (51) ready to give all he can to the poor and needy; (52) strongly opposed to any kind of cruelty to animals; (53) very fond of his family and his friends; (54) warm-hearted and unselfish towards his friends; (55) free with his money and property at all times.

Useful, rich, ardent, liberal, generous, charitable, happy, affectionate, humane, gentle.

Goodness. Which word among those below best describes a person who (56) does what is right upon all occasions; (57) is renowned for his great holiness; (58) believes sincerely in the teaching of Jesus Christ; (59) attends church regularly and devotedly; (60) is worthy of our respect because of his excellent character?

Decent, solitary, happy, religious, devout, well-dressed, virtuous, saintly, rich, admirable.

Badness. Which word among those below best describes a person who (61) does evil things out of ill-will or spite; (62) is selfish and underhand in his actions; (63) does wrong for the sake of doing wrong; (64) behaves in a rough and unfeeling manner towards children and animals; (65) does things, often in temper, that are base and shameful?

Uncivil, mean, vicious, malicious, wicked, haughty, deceitful, conceited, brutal, vain.

Carefulness. Which word among those below best describes a person who (66) shows carefulness in avoiding risks; (67) shows carefulness in thinking and planning for the future; (68) shows carefulness in thinking of the needs of others; (69) shows carefulness enough to get any calculations he makes correct; (70) shows carefulness in spending so that he makes the most of his money?

Sparing, economical, mean, prudent, clever, cautious, accurate, honest, prompt, considerate.

Carelessness. Which word among those below best describes a man who is (71) careless and untidy alike in dress and person; (72) careless in leaving undone what he knows should have been done; (73) careless in matters where the result of his carelessness will be serious; (74) careless in attending to a warning or to advice; (75) careless in noticing what may be of use to him or to others?

Deaf, heedless, unobservant, slovenly, thoughtless, unlucky, prudent, negligent, lazy, silly.

Skill. Which word among those below best describes a person who is (76) skilful in making beautiful things; (77) skilful in speaking with force and fluency; (78) skilful in managing difficult things with his hands; (79) skilful (or learned) to a high degree in some special direction; (80) skilful in moving and climbing quickly and nimbly?

Alert, agile, glib, dexterous, eloquent, expert, clever, famous, artistic, lucky.

Ill-health. Which word among those below best describes a person who (81) is frequently out-of-sorts and is seldom quite well; (82) has unhealthy ideas that constantly occupy and depress his mind; (83) is forced to lie up on account of illness or old age; (84) for the time being does not feel as well as usual; (85) is weak through old age and unable to stand for long or walk far?

Weary, pale, infirm, bed-ridden, unlucky, indisposed, sickly, foolish, strange, morbid.

Pride. Which word among those below best describes a person who (86) behaves as though he has a very high opinion of himself; (87) thinks too highly of his own rather poor abilities; (88) is stupidly proud of his personal appearance; (89) thinks of nothing but himself and his own affairs; (90) has a habit of treating others as his inferiors?

Vain, smart, stupid, conceited, ugly, egotistical, arrogant, plain, rude, haughty.

Friendliness. Which word among those below best describes a person who (91) gets on well with the people in company; (92) is ready to welcome and entertain others; (93) is ready to do a friendly deed for those who live near him; (94) is friendly and easy to please; (95) is pleasant and nicely behaved in his manners?

Sociable, polite, loving, bright, hospitable, careful, amiable, soft, neighbourly, well-to-do, well-beloved.

Humility. Which word among those below best describes a person who (96) is slow to praise himself and does not rate himself too highly; (97) loses his self-possession in the presence of his superiors; (98) has too poor an opinion of himself to show to proper advantage; (99) is content, though he knows he will never be able to excel as others do; (100) is content in his poor station in life and aspires to nothing higher?

Diffident, weak-willed, bashful, humble, weak, modest, feeble, lovely, meagre, honest.

NORMS

AGE GROUP	TEST No. 1		TEST No. 2		TEST No. 3		TEST No. 4		TEST No. 5	
	Number Tested	Norm	Number Tested	Norm	Number Tested	Norm	Number Tested	Norm	Number Tested	Norm
10-11	294	31	251	26	251	22	270	20	271	15
11-12	800	40	488	31	478	30	505	27.5	463	22.5
12-13	875	49	659	36	500	38	674	35	603	30
13-14	849	58	753	41	586	46	818	42.5	735	37.5
14-15	39	67	92	46	83	54	84	50	104	45

6. A Vocabulary Test for Young Children

INSTRUCTIONS

1. Below will be found 100 questions to be answered orally and individually by children from three and a half years of age and upward.

2. The form of words employed in questioning and the suggested action (where indicated) may occasionally be varied in order to bring out the required answer if it is misunderstanding and not ignorance which stands in the child's way.

3. The number of questions asked at a sitting must depend upon age and intelligence.

4. It will be noted that questions 1-50 deal with what is seen, while questions 51-100 deal with what is merely described.

5. The words in capitals indicate the correct answers.

Face and Features

Say, "Which part of my face am I touching?"

Point in turn to: (1) NOSE; (2) NOSTRILS; (3) EYES; (4) EYEBROWS; (5) EYELASHES.

Actions with the Hands and Fingers

Say, "Now watch what I am going to do. What am I doing now?"

(6) WRITING; (7) THREADING A NEEDLE; (8) TAPPING THE TABLE; (9) SCRATCHING YOUR HEAD; (10) UNFASTENING YOUR BUTTON OR UNBUTTONING YOUR

Household Articles

Say, "I wonder whether you can tell me what this is?"

(11) SCISSORS; (12) SAFETY-PIN; (13) COMB; (14) RAZOR-BLADE; (15) TAPE-MEASURE.

Actions with the Hands

Say, "What am I going to do now? What do we call this?"

(16) CLAPPING YOUR HANDS; (17) RUBBING YOUR ELBOW; (18) SQUEEZING YOUR FINGER; (19) CLENCHING YOUR FIST; (20) PATTING YOUR HEAD.

Shapes

Say, "Look at what I am going to draw and tell me what it is."

(21) SQUARE; (22) CIRCLE; (23) TRIANGLE; (24) DIAMOND; (25) STAR.

Coins

Say, "Now tell me what the coins are which I am going to show you."

(26) PENNY; (27) SIXPENCE; (28) SHILLING; (29) HALF-CROWN (or 2s. 6d.); (30) FLORIN (or 2s.).

Positions

Say, "Now look at this square and tell me where I put the next one."

(31) INSIDE IT; (32) BELOW OR UNDERNEATH IT; (33) ON THE RIGHT (-HAND) SIDE (OF IT); (34) ON THE LEFT (-HAND) SIDE (OF IT); (35) (ALL) ROUND IT OR OUTSIDE IT.

Sounds

Say, "Listen to what I am going to do now. What do we call it?"

- (36) WHISTLING; (37) WHISPERING; (38) SIGHING; (39) SNORING;
(40) HUMMING.

Adjectives

Say, "I am going to show you some things in twos. I will tell you what one is, and you can tell me what the other is."

- (41) Feel these. This is rough, but that is . . . ? SMOOTH. (42) Look at these pencils. This is sharp, but that is . . . ? BLUNT. (43) Look at these lines. This is upright, but that is . . . ? SLANTING. (44) Look at these pieces of paper. This one is flat, but that one has been . . . ? FOLDED. (45) Look at these two boys (girls). He (she) is dark, but he (she) is . . . ? FAIR.

Fabrics

Say, "I wonder if you know what these articles are made of?"

- (46) WOOL; (47) SILK; (48) COTTON (CALICO, etc.); (49) LEATHER;
(50) LINEN.

Breakfast

Say, "Now I am going to ask you some questions about things you have seen at home. I expect you can answer them."

- (51) Which part of the milk comes to the top? CREAM. (52) What do we call the outside of a loaf of bread? CRUST. (53) What do we call the yellow part of an egg? YOLK. (54) Which part of the teapot is the tea poured out from? SPOUT. (55) What do we call the part of an apple where you find the pips? CORE.

Shopkeepers

Say, "Now some questions about shopkeepers and what they sell."

- (56) Who sells meat? BUTCHER. (57) Sugar and tea? GROCER.
(58) Men's clothes? TAILOR. (59) Pills and medicine? CHEMIST.
(60) Who makes and sells bread? BAKER.

Meat

Say, "Which animal gives us the meat I am going to mention.
(61) Beef. COW. (62) Pork. PIG. (63) Mutton. SHEEP. (64) Veal. CALF. (65) Bacon. PIG.

Quantities

Say, "When you buy things you have to know how much to ask for."

- (66) What could you ask for if you had to buy some milk? PINT or QUART. (67) What could you ask for if you had to buy some coal? HUNDREDWEIGHT, HALF-HUNDREDWEIGHT, etc. (68) What could you ask for if you had to buy some tea? POUND, HALF-POUND, OUNCE, etc. (69) What could you ask for if you had a motor-car and had to buy some petrol? GALLON. (70) What is another name for twelve eggs? A DOZEN.

Occupations

Say, "Now see if you can tell me what we call the man who does this."

- (71) The man who brings the letters round. POSTMAN. (72) The man who gives you your ticket on the bus (or tram). CONDUCTOR. (73) The man who blows the whistle for the train to start. GUARD. (74) The woman who serves you with food in a teashop. WAITRESS. (75) The man who mends the gas-pipes and the water-pipes when they leak. PLUMBER.

Eating and Drinking

Say, "Now see if you know these different ways of eating and drinking."

- (76) Biting a tiny bit at a time like a mouse is called . . . ? NIBBLING. (77) Drinking just a little at a time is called . . . ? SIPPING. (78) Biting our food up and getting it ready to swallow is called. . . ? CHEWING or MASTICATING. (79) Eating hard biscuits in a noisy manner is called . . . ? CRUNCHING. (80) The cat drinks her milk by taking it up with her tongue. We call that . . . ? LAPPING IT UP.

The Kitchen Fire

Say, "Here are some questions about the fire at home."

- (81) Which part of the fireplace has bars to keep the coal from falling out? GRATE. (82) What do we call the floor just in front of the fire? HEARTH. (83) What does the smoke leave behind it in the chimney? SOOT. (84) What is left when the fire is burnt right out? ASHES or CINDERS. (85) What can be burned instead of coal? COKE or COALITE or WOOD.

The Street

Say, "Now see whether you can tell me these things about the street."

- (86) What is the part we walk on called? PAVEMENT. (87) What is the edge of this part (next to the road) called? KERB (-STONE). (88) What is the part called where the water collects and runs along? GUTTER. (89) What do we call a street which has no way out? BLIND ALLEY. (90) What do we call a place in the middle of the road where we can stand out of the way of the traffic? REFUGE.

Cooking the Dinner

Say, "Here are some of the things which mother may do in cooking the dinner. See if you know what they are."

- (91) She puts the potatoes in the saucepan on the stove to . . . ? BOIL THEM. (92) She puts the pie into the oven to . . . ? BAKE IT. (93) She holds a slice of bread in front of the fire to . . . ? TOAST IT. (94) She puts the bacon into the pan on the stove to . . . ? FRY IT. (95) She puts the chicken into the oven to . . . ? ROAST IT.

Games

Say, "I expect you know what the answers to these questions are."

- (96) Throwing a ball down to the ground to make it come up again is called . . . ? BOUNCING IT. (97) When we pretend to do exactly the same as somebody else we say that we are . . . ? MIMICKING HIM (COPYING HIM, IMITATING HIM). (98) When you put yourself where you cannot be seen we say that you are . . . ? HIDING. (99)

When you are trying to run faster than some one else and beat him (her) we say that you are . . . ? **RACING.** (100) When you are jumping along on one foot we say that you are . . . ? **HOPPING.**

For Norms of Performance see p. 50.

7. Words with More than One Meaning

INSTRUCTIONS (to pupil)

Most words have more than one meaning. Think, for example, of the word *bridge*: we may speak about a bridge over a river and also about the bridge of the nose (quite another kind of bridge); we may speak, too, of the bridge of a violin (still another kind of bridge) and of the game of bridge (which, again, is nothing like the other kinds of bridge).

Here are eight more words which have more than one meaning:

COVER LINE RUN ROUND ROLL POINT HEAD CROSS

These eight words may be used to fill in the blanks in the sentences below. See if you can put them in the right places. You will find when you have done this that you have used each of the eight words five times.

- (1) He gave the nail a blow on the . . . with his hammer.
- (2) Her speech was greeted with a . . . of applause.
- (3) Letters between friends often . . . each other in the post.
- (4) Don't waste time; make a . . . of doing what you can at once.
- (5) The King's law does not . . . among rebels.
- (6) In these matters one must learn where to draw the
- (7) It was a treacherous thing to do under . . . of friendship.
- (8) The merchant took a . . . of banknotes out of his case.
- (9) If you . . . a postal order it is less likely to be lost.
- (10) One hundred pounds would be a good . . . sum for such a purpose.
- (11) Very well, I'll stretch a . . . and let you go with the rest.
- (12) The cyclist was able to . . . the distance in ten seconds.
- (13) I hardly think Mary's . . . of luck is likely to continue.
- (14) You may find teaching dealt with in the encyclopædia under the . . . of education.
- (15) I hope you will take a strong . . . when you talk to him.
- (16) To make things worse the ship began to . . . violently.
- (17) He was above the ordinary . . . of person for this kind of work.
- (18) Each of us has his own . . . to bear.
- (19) Father usually takes the . . . of the table at meals.
- (20) Her life was one long . . . of pleasure.
- (21) The earl was in the direct . . . of descent from Queen Anne.
- (22) What was your . . . in asking such a question at that moment?
- (23) My father's name was inscribed on the . . . of honour.

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- (24) All four letters were sent to the Town Hall under the same . . .
- (25) The horsemen left the town and began to . . . for the open country.
- (26) It was a time when feeling was apt to . . . high.
- (27) The Grenadier Guards are not considered to be a regiment of the . . .
- (28) The enemy's position was captured at the . . . of the bayonet.
- (29) The old lady was unable to sign her name, so she was told to make a . . . instead.
- (30) The lecture was quite above my . . .
- (31) That makes the fourth . . . of toast you have had.
- (32) The . . . of the drums sounded like distant thunder.
- (33) The young general was not expected to . . . himself with glory in his first campaign.
- (34) We usually agree, but that day we were at . . . purposes.
- (35) What do you think was the main . . . of his argument?
- (36) A place laid for a person at a meal is sometimes called a . . .
- (37) You've . . . it rather fine; in another minute you would have lost the bus.
- (38) No one should expect to . . . his pockets with money in war-time.
- (39) The soldiers had to account for every . . . of ammunition fired.
- (40) I like to hear that Aberdeen boy . . . his r's.

Norms of Performance

Age . .	11-12	12-13	13-14	14-15
Score .	17	20	23	26

8. Ideational Addition

INSTRUCTIONS (to pupil)

Look at the following 'sums':

1 dog + 1 fox + 1 lion = 3 animals.

1 piano + 1 banjo + 1 violin = 3 musical instruments.

Now write the word or words needed to complete the following 'sums.' You must find the BEST answer. For example, *instruments* is not so good as *musical instruments* for the second answer above.

- (1) 1 robin + 1 pigeon + 1 eagle = 3
- (2) 1 fly + 1 beetle + 1 grasshopper = 3
- (3) 1 uncle + 1 aunt + 1 cousin = 3
- (4) 1 penny + 1 threepenny-piece + 1 shilling = 3
- (5) 1 pint of milk + 1 pint of vinegar + 1 pint of lemonade = 3 pints of
- (6) 1 revolver + 1 sword + 1 spear = 3
- (7) 1 diamond + 1 ruby + 1 emerald = 3

- (8) 1 lump of chalk + 1 lump of iron + 1 lump of coal = 3 lumps
of
- (9) 1 lorry + 1 truck + 1 cart = 3
- (10) 1 tunnel + 1 corridor + 1 alley = 3
- (11) 1 church + 1 chapel + 1 cathedral = 3
- (12) Tom's father + May's mother + Jane's mother = 3
- (13) 1 lb. butter + 1 lb. margarine + 1 lb. lard = 3 lb.
- (14) 1 table + 1 chair + 1 bedstead = 3
- (15) 1 king + 1 emperor + 1 president = 3
- (16) 1 house + 1 flat + 1 bungalow = 3
- (17) 1 piece of tin + 1 piece of iron + 1 piece of lead = 3 pieces
of
- (18) 1 cwt. coal + 1 cwt. coke + 1 cwt. logs = 3 cwt.
- (19) 1 glass of wine + 1 glass of ale + 1 glass of whisky = 3 glasses
of
- (20) 1 oz. pepper + 1 oz. cloves + 1 oz. nutmeg = 3 ozs.
- (21) The word *Smith* + the word *Jones* + the word *Brown* = 3
- (22) 1 lb. lime + 1 lb. soda + 1 lb. sulphur = 3 lb.
- (23) 1 knife + 1 razor + 1 axe = 3
- (24) 1 saucepan + 1 frying-pan + 1 baking dish = 3
- (25) 1 onion + 1 daffodil + 1 tulip + 3
- (26) 1 eye-shade + 1 gas-mask + 1 fender = 3
- (27) 1 act of bravery + 1 act of heroism + 1 act of pluck = 3 acts
of
- (28) 1 lb. wheat + 1 lb. barley + 1 lb. oats = 3 lb.
- (29) 1 hour + 1 school term + 1 year = 3
- (30) 1 tourist + 1 pilgrim + 1 explorer = 3
- (31) 1 carpet + 1 hearth-rug + 1 door-mat = 3
- (32) 1 prop + 1 backbone + 1 arch = 3
- (33) 1 wedding + 1 coronation + 1 funeral = 3
- (34) 1 daily newspaper + 1 weekly journal + 1 monthly magazine
= 3
- (35) 1 chemistry book + 1 botany book + 1 electricity book
= 3
- (36) 1 moment of fear + 1 moment of joy + 1 moment of anger
= 3 moments of
- (37) 1 lift + 1 ladder + 1 staircase = 3
- (38) 1 statue + 1 painting + 1 opera = 3
- (39) 1 dart + 1 arrow + 1 bullet = 3
- (40) 1 wind + 1 cistern of steam + 1 waterfall = 3

Norms of Performance

Age	11-12	12-13	13-14	14-15
Score	18	20	22	24

II. SENTENCE-CONSTRUCTION: TESTS AND SCALES

1. A Sentence Completion Test

INSTRUCTIONS (to pupil)

1. Look at this sentence which has one word missing from it:
She shook me . . . the hand and wished me well.
The missing word is *by*, so that the sentence should read:
She shook me *by* the hand and wished me well.
2. Read the following and fill in each blank with a suitable word
 - (1) Isn't it time you turned . . . a new leaf?
 - (2) The master told us to carry . . . with our work.
 - (3) She declared that I was a boy . . . her own heart.
 - (4) Have you been able to dispose . . . your bicycle?
 - (5) Why are you always finding fault . . . me?
 - (6) The car drew . . . outside No. 37.
 - (7) The new law will come . . . force next week.
 - (8) If you should be passing just drop . . .
 - (9) It goes . . . the grain to help your enemy.
 - (10) Living here suits me . . . to the ground.
 - (11) She took what I said . . . good part.
 - (12) I can't say why the two friends fell . . . so badly.
 - (13) John is very ill and I don't think he'll pull . . .
 - (14) Uncle said he had knocked . . . the world a great deal.
 - (15) Mary pricked her ears . . . when I said so.
 - (16) I am looking . . . to seeing you again.
 - (17) They will make you pay . . . the nose for it.
 - (18) I was greatly . . . of pocket on that deal.
 - (19) Why did you take it . . . your head to say that?
 - (20) I have known her . . . and on for twenty years.
 - (21) She let her children get . . . of hand.
 - (22) Have you ever tried your hand . . . whist?
 - (23) Father said he would not stand . . . my light.
 - (24) Tom set his face . . . my plan.
 - (25) I don't believe in peace . . . any price.
 - (26) My brother will come . . . age next month.
 - (27) It's no use trying to palm that . . . on me.
 - (28) I wonder how that piece of news leaked . . .
 - (29) The aeroplane took . . . quickly and smoothly.
 - (30) I never thought you would turn your back . . . me.
 - (31) The shopkeeper handed him . . . to the police.
 - (32) You never know what may crop . . .
 - (33) Dick is very easy to get on . . .
 - (34) Children regard middle-aged people . . . quite old.
 - (35) Margaret had grown up . . . a fine woman.

Norms of Performance

Age .	10	11	12	13
Score . .	9	12	17	24

2. An English Language Scale

The pictures accompanying these notes were designed to measure, in so far as it is measurable, the progress of young children in mastering the basic varieties of the English sentence. By means of the scale derived from the use of the pictures we should be able to decide with some approach to accuracy how one child compares with another of the same age in one important aspect of his linguistic development.

The principle underlying the choice and the arrangement of the pictures is simple. As young children grow up and develop mentally they find themselves able to hold more and more images and ideas together in the mind at one time, and to speak of them in relation to one another more and more satisfactorily 'at one go.' Thus, children of the age of four will no doubt be able to say something intelligible about each of the first six pictures, but only those who have reached the age of eight or nine will be able, as a rule, to describe the last six in the manner required of them.

The pictures are arranged in sets of six: Stage One (1-6); Stage Two (7-12); Stage Three (13-18); Stage Four (19-24); Stage Five (25-30); and Stage Six (31-36). The first two pictures in each set are intended for use as samples. The child will learn from the examiner's description how he is to set about describing the remaining four.

The examiner should begin with the pictures for the year below that of the child who is being tested. He should be careful to say, "Look at this picture. It is a picture of Let me hear you say that." The child will repeat, "It is a picture of" "Here is another. This is a picture of" The child repeats the description in the form "This is a picture of" or "It is a picture of" The examiner then says, "Now I think you can tell me about one of these other pictures. Start each time by saying, 'IT IS A PICTURE OF' or 'THIS IS A PICTURE OF'"

The child should then work through as many of the pictures as he can manage to describe in the standard form. The examiner will insist every time on his beginning, "It is" (or "This is") "a picture of," though later he may allow just "A picture of" The child should not be penalized for wrongly identifying any animal or object —calling a horse a donkey, for example.

To find the language age of the child examined ADD THREE MONTHS FOR EACH PICTURE SATISFACTORILY DESCRIBED TO THE AGE OF FOUR (at which age we assume that the scale begins). Deduct from the three months allowed for each satisfactory description one month or two for faults of the kind particularized in the notes on the separate pictures.

We are here dealing, of course, with what are problematical situations for the young child. He will learn to say "This is the house that Jack built" after hearing others say it long before he is able to frame a fresh sentence on the same pattern. The following table shows how the language age of two children tested was arrived at.

NAME OF CHILD	ACTUAL AGE		SCORES FOR THE SEPARATE PICTURES																LANGUAGE AGE			
	Years	Months	Stage 1				Stage 2				Stage 3				Stage 4				Months	Years Months		
			Nos	3	4	5	6	7	10	11	12	15	16	17	18	21	22	23			24	
John W.	5	2																		48+16=	5	4
Mary X.	7	1																		48+34=	6	10
Ivor Z. (Show sex.)	6	6																		48+38=	7	2

NOTES ON THE SEPARATE PICTURES ¹

STAGE ONE (NOS. 1 TO 6)

(For Children of Four to Five Years)

It is assumed that all children attending school will be able to recognize and name familiar objects, animals, and persons when shown in pictures. This is a common enough performance as early as three years of age.

Most children beginning school at five will manage to describe the Stage One pictures. At four years of age it is by no means an easy thing for the average child both to hold together in the mind and to express in a single statement the idea of a picture that shows us (a) an animal, say, and (b) what it is doing. A good many children at four years of age will be able to name these two elements separately and yet need a great deal of prompting to express them together in one statement.

If a child sees more and names more he need not be given additional credit, since his superior ability will enable him at a later stage to show to greater advantage than those who supply the minimum information only.

If the teacher finds she has to prompt *once* to get a child to connect up the separate parts of a correct description a deduction should be made of *one* month from the three credited for each correctly described picture. If two promptings are needed *two* months should be deducted

SAMPLE DESCRIPTIONS

This (It) is a picture of . . .

(1) A boy running.

(2) A girl swinging.

REQUIRED DESCRIPTIONS

This (It) is a picture of . . .

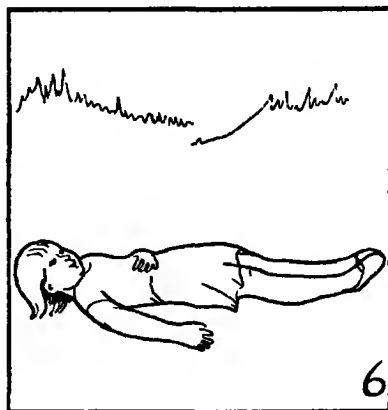
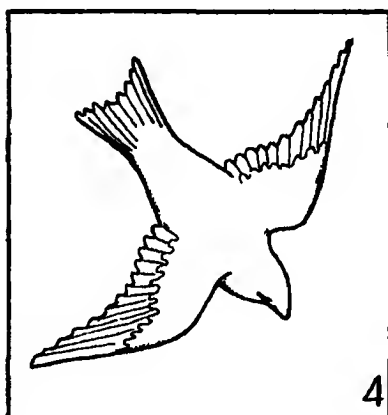
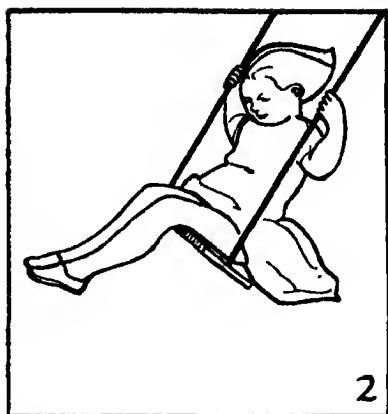
(3) A girl skipping.

(4) A bird flying.

(5) A girl dancing.

(6) A girl lying down.

¹ As originally designed the pictures used showed much the same details, but they were (a) coloured and (b) larger.



STAGE ONE

STAGE TWO (Nos. 7 TO 12)

(For Children of Five to Six Years)

The average child of five should be able to attempt the easiest of these pictures, but it will take the child of six to score full marks. The bright child of four and a half will understand the idea of the pictures, but he will as a rule be unable to describe them neatly in a single sentence. For example, he may say about No. 9, "It's a dog and a cat—he's nearly got him." Another point of interest is that at five years of age the less striking actions are not often named specifically. For example, a child may say about No. 10 that it is a picture of a girl with a doll. Neither will the dull child of six, as a rule, use a graphic present participle like *hugging*, or *loving*, or *squeezing*; in other words, he seems to be unable to think himself into the situation shown.

The teacher should proceed as before, explaining the sample pictures 7 and 8 and making sure that the child can describe them in the standard form.

One month's credit should be deducted for each prompting needed to secure a full and proper description.

SAMPLE DESCRIPTIONS

This (It) is a description of . . .

(7) A boy riding on a donkey.

(8) A woman (*or* lady) carrying a jelly (on a plate).

REQUIRED DESCRIPTIONS

This (It) is a description of . . .

(9) A dog running after (*or* chasing) a cat.

(10) A girl hugging (*or* nursing, *or* loving) a doll.

(11) A (black) girl (lady) carrying a basket (on her head).

(12) Two boys shaking hands, *or* One boy shaking hands with another (boy).



STAGE TWO

STAGE THREE (Nos. 13 TO 18)

(For Children of Six to Seven Years)

It will be observed that as a rule three things have to be mentioned in these pictures. Children below the age of seven will frequently omit to mention one of these, not so much because they fail to observe it as because they find it difficult in a single act of attention to hold together the idea of three things in a particular relation. As before, the teacher should deduct one month's credit for each prompting necessary to secure a full and proper description.

SAMPLE DESCRIPTIONS

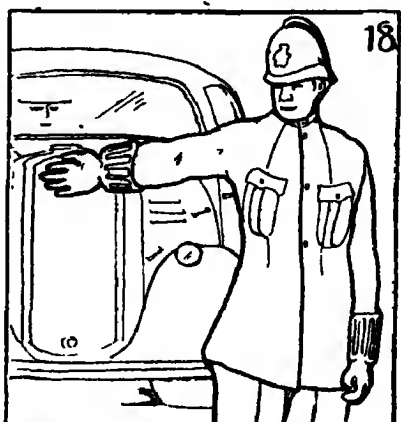
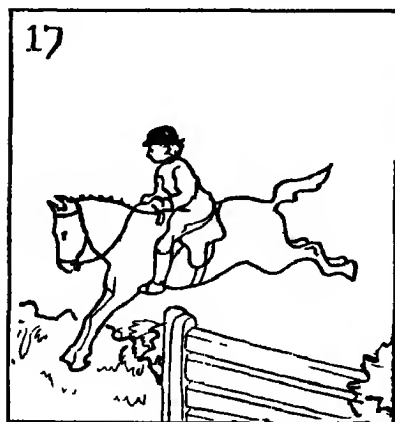
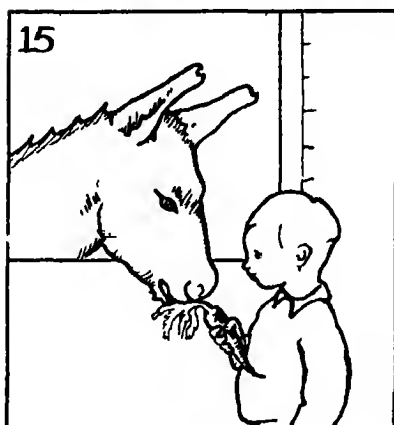
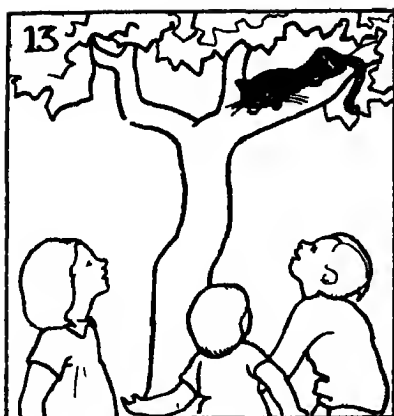
This (It) is a picture of . . .

- (13) Some children looking up at a cat in a tree.
- (14) A girl putting a flower into a little boy's button-hole.

REQUIRED DESCRIPTIONS

This (It) is a picture of . . .

- (15) A boy offering a donkey a carrot (*or* a carrot to a donkey), *or* A boy giving a donkey a carrot, *or* A boy holding out a carrot to a donkey.
- (16) A girl lifting up a little boy to put a letter in the letter-box. (Acceptable alternatives are: (a) *lifting up*: holding up; (b) *a little boy*: a boy, her brother; (c) *put a letter, etc.*: post a letter. Any reasonable variant of the kind indicated will be acceptable.)
- (17) A lady on a horse jumping over a gate; *or* A girl on horseback jumping over a gate, *or* A lady on horseback leaping over a gate. (Acceptable alternatives for *gate* are *fence* and *hurdle*.)
- (18) A policeman putting up his hand to stop the motors (*or* the traffic), *or* A policeman holding up the traffic.



STAGE THREE

STAGE FOUR (Nos. 19 TO 24)
 (For Children of Seven to Eight Years)

The fact that all the relations in these pictures shown are between actions and not merely between figures makes their successful description a matter of great difficulty for children below the age of seven. Since some of these pictures cannot be described easily without the use of the word *because*, it is important that the teacher should *not* prompt the child who fails to connect up the separate ideas in the twenty-first and twenty-fourth pictures by asking "Why?" Children first learn to say *because* in reply to the cue *why* without being able to recognize for themselves situations where the word *because* would be suitable in describing them, and it is this latter ability we are testing.

One month's credit should be deducted for each prompting necessary to secure a full and proper description.

SAMPLE DESCRIPTIONS

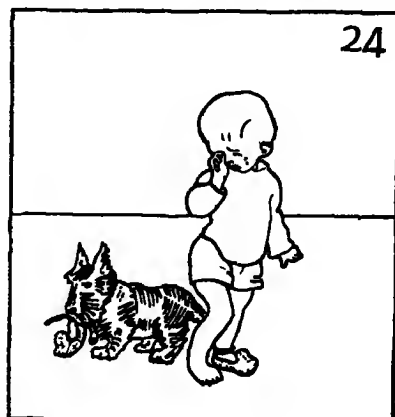
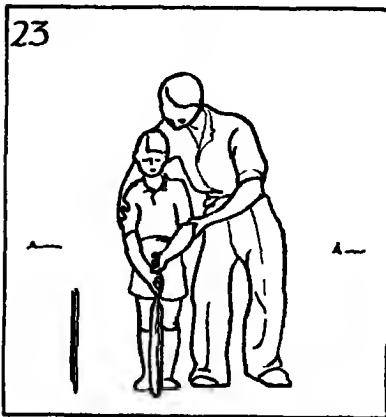
This (It) is a picture of . . .

- (19) A girl opening her umbrella because it is raining.
- (20) A dog waiting for his master to throw a stick into the water.

REQUIRED DESCRIPTIONS

This (It) is a picture of . .

- (21) A cat (who is) angry because the dogs are drinking her milk. (Acceptable alternatives: (a) *angry*: cross, bristling with rage; (b) *cat*: pussy, pussycat; (c) *drinking*: lapping up.)
- (22) A girl lifting up her pussy away from the dog. (Acceptable alternatives: (a) *lifting up*: putting up, holding up; (b) *pussy*, pussycat, cat; (c) *away from*: out of the way of.)
- (23) A man showing a boy how to hold a cricket bat. (Acceptable alternatives: (a) *showing*: helping; (b) *hold a cricket bat*: play cricket, what to do with his cricket bat.)
- (24) A boy crying because a dog has taken his shoe. (Acceptable alternatives: (a) *boy*: little boy; (b) *taken*: stolen, run away with.)



STAGE FOUR

STAGE FIVE (Nos. 25 TO 30)
(For Children of Eight to Nine Years)

The Stage Five pictures call for the use of relative pronouns. Most of the children of seven will find it difficult to link up the separate parts of their statements with *who* or *that*. One cause of their difficulty is that the actions shown must be described as already having taken place. The teacher must, therefore, explain while describing the sample pictures (25 and 26) that what is being described *has already taken place*.

One month's credit should be deducted for each prompting necessary to secure a full and proper description.

SAMPLE DESCRIPTIONS

This (It) is a picture of . . .

(25) A woman who has just turned out a jelly.

(26) A girl who has just caught a ball.

REQUIRED DESCRIPTIONS

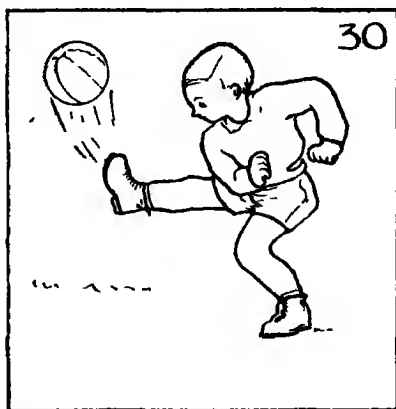
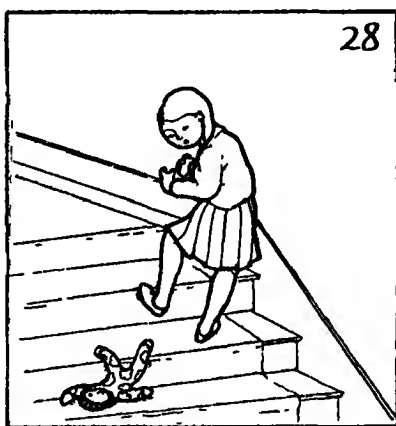
This (It) is a picture of . . .

(27) A boy who has fallen into the water. (Acceptable alternatives: (a) *fallen*: tumbled; (b) *water*: river, pond, stream.)

(28) A girl who has dropped her doll on the stairs, *or* A girl who has just let her doll fall on the stairs (Acceptable alternatives: (a) *doll*: dolly; (b) *stairs*: staircase; (c) *on the stairs*: going upstairs)

(29) A boy who has fallen down and broken his jug. (Acceptable alternatives. (a) *fallen down*: tumbled down, fallen over, etc; (b) *his jug*: a jug, something, something he was carrying)

(30) A boy who has just kicked a football.



STAGE SIX (Nos. 31 TO 36)

(For Children of Nine to Ten Years)

The Stage Six pictures call for the use of subordinate clauses with the relative *which* either expressed or understood. The child in describing these pictures has to connect up what is happening with what has already happened, and speak of both in the same sentence. The pictures are therefore a little harder than those at Stage Five.

One month's credit should be deducted for each prompting necessary to secure a full and proper description.

Which may be omitted without penalty.

SAMPLE DESCRIPTIONS

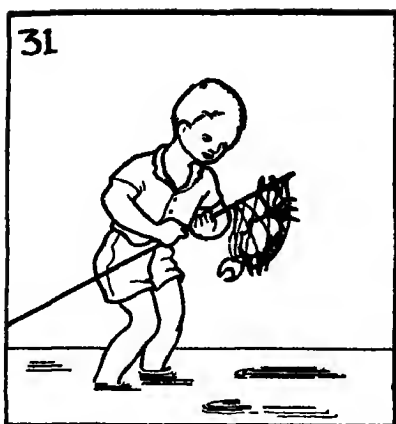
This (It) is a picture of . . .

- (31) A boy looking at a crab which he has caught in his net.
- (32) A boy picking up a cabbage which has fallen out of a motor-van.

REQUIRED DESCRIPTIONS

This (It) is a picture of . . .

- (33) A shopman putting potatoes into the basket which a little girl is holding out to him.
- (34) A boy looking at a bubble which he has just blown.
- (35) A girl putting up her hands to catch her hat which the wind has blown off, *or* A girl trying to catch her hat which has been blown off by the wind. (Reasonable alternatives will readily be recognized.)
- (36) Picture of a cat jumping up at a fish which a boy has thrown to her (it).



3. Sentence Patterns

Jespersen says in his *Philosophy of Grammar* that phrases and sentences may be classified as (a) formulas or (b) free expressions. Formulas are stock expressions, like "Oh, dear!" or "How do you do?" which hang together as wholes and cannot be re-formed as meaningful utterances by a mere change of the terms of which they are composed. Free expressions, however, are based on patterns which can be used repeatedly with changes in their component units; for example, using *subject*, *verb*, and *direct object* in this order as the basis of our pattern, we may say "John ate the cake," "Mary swept the floor," "Father found the money," or "The liner crossed the ocean" without departing from the original pattern. Jespersen defines *free expressions* as "expressions created on the spur of the moment after a certain type which has come into existence in the speaker's mind as a result of his having heard many sentences possessing some trait or traits in common."

How early in life do children sense this type of pattern in language? In what order are the commoner sentence-patterns mastered? The results of the following test may throw a little light on these questions.

INSTRUCTIONS

1. SAY TO THE CHILDREN, Look at the five sentences which I have written on the blackboard.

I bought a knife to cut my meat with.
 Tom made a hutch to keep his rabbits in.
 Mary found a shelf to put her parcels on.
 Mother knows a shop to buy your presents at.
 Uncle has no son to leave his money to.

There is something the same about the way they are all made—that is, they are all formed on the same pattern. Let us try to make up some more sentences like them.

2. Now see if you can match the sentences that follow. Make up two sentences on the same pattern as each group of five. Now start.

3. Results should be shown as follows:

AGE	NO. 1 PATTERN			NO. 2 PATTERN			Etc.
	Number of Answers		Percent. Correct	Number of Answers		Percent. Correct	
	Correct	Possible		Correct	Possible		
7-7½							
7½-8							
8-8½							
etc.							

No. 1

It was evening, and the birds were singing in the trees.

It was morning, and the workmen were hurrying through the streets.

It was autumn, and the corn was ripening in the fields.
 It was midnight, and the stars were glittering in the heavens.
 It was winter, and the snow was falling from the sky.

No. 2

"Hullo," I cried, opening the door.
 "Come on," he shouted, making for the gate.
 "Never," she exclaimed, picking up her hat.
 "Thank you," he whispered, bidding me good-bye.
 "Nonsense," I replied, showing him the book.

No. 3

Little Miss Muffet sat on a tuffet eating her curds and whey.
 Old Mr Miser sat in his cellar counting his silver and gold.
 Busy Miss Brown sat at the table marking the spellings and sums.
 Poor Cinderella worked in the kitchen washing the dishes and plates.
 Young Tom Parker ran through the village chasing the dogs and the cats.

No. 4

"Give me an envelope," she said as she finished the letter.
 "I'm sorry it's over," he sighed as he closed the book.
 "Look at that," he said as he showed me the paper.
 "I'll see," she replied as she turned to the cupboard.
 "Here they are," she exclaimed as she looked out of the window.

No. 5

Having eaten their breakfast, they set out for school.
 Having found the treasure, they returned to the ship.
 Having sold my canary, I gave away its cage.
 Having swallowed a bone, Mary began to cough.
 Having counted his marbles, Tom put them into the bag.

No. 6

Everything being ready, the army prepared to march off.
 The children being asleep, their parents got ready to go out.
 Dinner being served, we decided to stay.
 The shops being closed, we were obliged to come back.
 The storm being near, she was afraid to go farther.

RESULTS BASED ON AN AVERAGE OF 328 SENTENCES AT EACH AGE

AGE	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
8-9	46.5	44.0	39.6	29.0	28.5	14.7
9-10	51.5	47.0	41.6	31.8	32.8	21.5
10-11	61.6	57.5	53.6	45.5	42.8	43.0
11-12	65.0	63.2	55.6	59.2	48.1	56.5

4. Connecting Words and Phrases

INSTRUCTIONS (to pupil)

1. Look at the following unfinished sentence:

Mary opened her umbrella **BECAUSE**

This might be finished so as to read:

Mary opened her umbrella because it was raining.

2. Now look at the unfinished sentences in the test below. Each is followed by four groups of words arranged as (a), (b), (c), and (d).

You are asked to underline the group of words which would make the best ending for the unfinished sentence they follow.

Here is one done for you:

You cannot leave school **BEFORE**

(a) yesterday is over; (b) every Christmas; (c) you are fourteen years of age; (d) I am sure.

3. Now begin. Forty minutes will be allowed for the test.

- (1) I shall not be able to do my sums **UNLESS** . . .

(a) they are too difficult; (b) you help me; (c) multiplication is very hard; (d) they are marked by you.

- (2) If you take this bus you will be an hour on the road; **ANYHOW**, . . .

(a) don't take it; (b) don't be too sure; (c) here we are; (d) you are certain to arrive before dinner.

- (3) My grandfather is very healthy, **CONSIDERING** . . .

(a) he gets plenty of fresh air; (b) his age; (c) I am his grandson; (d) how he can be so well.

- (4) The king commanded them to return **WHENCE** . . .

(a) they came; (b) they did so at once; (c) and hence; (d) it was late.

- (5) He loves his mother, **ALTHOUGH** . . .

(a) she loves him; (b) she is unkind to him; (c) she is kind; (d) he does not.

- (6) Be sure you finish your work **BEFORE** . . .

(a) I entered school; (b) you begin it; (c) I come back; (d) you come to the end of it.

- (7) We all want to know **WHETHER** . . .

(a) if you please; (b) you are coming or not; (c) forecasts are reliable; (d) to-morrow or Sunday is wet.

- (8) We did not enjoy the music **BECAUSE** . . .

(a) you are right; (b) when you like it; (c) you cannot come; (d) we were tired.

- (9) The bugles sounded; **THEREUPON** . . .

(a) the airmen opened their parachutes and came down, (b) the sailors cheered; (c) the buses set out; (d) the soldiers fell into line.

- (10) A great deal of the truth has come out; **STILL** . . .
(a) it is untrue; (b) no one is ready; (c) there is more to come;
(d) I wish it really had.
- (11) I hope you will be able to do it **WITHOUT** . . .
(a) my mother said so; (b) his knowing anything about it;
(c) to-morrow morning; (d) anything will do.
- (12) This poor boy can **NEITHER** . . .
(a) you nor I can; (b) read nor write; (c) get up in the morning;
(d) see what we mean.
- (13) Thank you for your invitation; **UNFORTUNATELY** . . .
(a) I cannot thank you; (b) no, but I will; (c) you have not replied; (c) I shall be unable to accept it.
- (14) My uncle is still rich **NOTWITHSTANDING** . . .
(a) but with knowledge; (b) his great losses; (c) still and doing nothing; (d) his banking account.
- (15) He is not a good speaker, and **YET** . . .
(a) people like him; (b) he stutters; (c) he cannot be heard;
(d) no one likes him.
- (16) I cannot tell you **WHERE** . . .
(a) are you?; (b) she lives; (c) you are asked; (d) to-morrow will be.
- (17) She could not explain **WHY** . . .
(a) yes, you can; (b) she had done such a thing; (c) certainly;
(d) on her birthday.
- (18) Mind you don't play with the fire **WHILE** . . .
(a) it went out; (b) mother forgets to light it; (c) away the time; (d) I am away.
- (19) I shall give sixpence to **WHOEVER** . . .
(a) was it? (b) gets the right answer first; (c) can it be?
(d) or whoever not.
- (20) It is likely than he did the job; **CERTAINLY** . . .
(a) he would have tried; (b) I saw him do it; (c) he could not have done it; (d) no one could.
- (21) I admit I was present, **BUT** . . .
(a) it was much too hard; (b) I was not really there; (c) I had no hand in the affair; (d) I had an adventure.
- (22) She will be there all right **IF** . . .
(a) she says she will; (b) yesterday would do; (c) no one was;
(d) she cannot be everywhere.
- (23) You say you saw him in the street; **AS A MATTER OF FACT** . . .
(a) he was in my room; (b) why did you believe it? (c) where am I now? (d) it is not.
- (24) He evidently knows more about the matter **THAN** . . .
(a) he cannot know; (b) anybody can see he does; (c) he is willing to admit; (d) time will tell.

- (25) You may have a ticket PROVIDED THAT . . .
 (a) many persons were like it; (b) it was a nice day; (c) you promise to use it; (d) you resemble me.
- (26) Wait for me; IN ALL PROBABILITY . . .
 (a) I shall be a few minutes late; (b) I am here; (c) I know you will; (d) where you like.
- (27) Do you see these stockings? I wonder WHOSE . . .
 (a) the person they belong to; (b) Mr Jones's; (c) taken them; (d) they are.
- (28) Sam has a bad name in the village; AT THE SAME TIME . . .
 (a) he has a bad character; (b) I like him; (c) they have not seen him; (d) he is not a good man.
- (29) You may stay or go, just AS . . .
 (a) I wanted you to do it; (b) far as you can; (c) you please; (d) the sun was rising.
- (30) You must promise to be better, OTHERWISE . . .
 (a) I shall put you to bed; (b) you will be; (c) why should you? (d) I am much worse.
- (31) It is late, and you are not well; FURTHERMORE . . .
 (a) why is it? (b) you are improving; (c) the weather is uncertain; (d) here we are.
- (32) You think I ought to go; ON THE CONTRARY . . .
 (a) it is a good idea; (b) yes, I do; (c) I think I should stay; (d) I think I will.
- (33) She was afraid LEST . . .
 (a) she was frightened; (b) some one would discover her there; (c) than she ought to be; (d) and less.
- (34) I have very little money; NEVERTHELESS . . .
 (a) I have none besides; (b) do you really think so? (c) you may have what you have; (d) I think I can manage.
- (35) What he says is quite untrue. MOREOVER, . . .
 (a) to-morrow will never come; (b) he knows it is; (c) don't you? (d) I was not sure.
- (36) The child was knocked down WHILE . . .
 (a) no one saw him at school; (b) the car stopped at once; (c) he was crossing the road; (d) I don't think so.
- (37) I shall take the job WITH A VIEW TO . . .
 (a) improve as we go along; (b) making a success of it; (c) make a mess of it; (d) being short of cash.
- (38) John was there, Mary was there, Betty was there; IN FACT . . .
 (a) I was not there; (b) they were not really there; (c) no one told me about them; (d) all the family were there.
- (39) Hurry up and finish your work so THAT . . .
 (a) we can go out; (b) it cannot be done; (c) Christmas will soon be here; (d) I cannot either.

- (40) I am going to the grocer's; **PERHAPS** . . .
 (a) I did, perhaps I didn't; (b) it was yesterday I went; (c) you will come with me; (d) I will.
- (41) Just imagine **HOW** . . .
 (a) no one knows why; (b) a pig can be a cow; (c) can you see what I mean?; (d) she must have suffered.
- (42) The speaker said the matter had been attended to, **WHEREAS** . . .
 (a) we had asked him before; (b) we all knew it had not; (c) to-morrow would do; (d) we thanked him.
- (43) They think you are the prince; **CONSEQUENTLY** . . .
 (a) you are well known to all; (b) I do not think so; (c) you are only his servant; (d) you will be quite safe.
- (44) The residents want a new road, but the **OBJECTION WILL BE THAT** . . .
 (a) it is bad for cars; (b) they will leave if they don't get it; (c) it is not attended to; (d) it will cost too much.
- (45) You've let the cat out of the bag; **IN OTHER WORDS** . . .
 (a) where is the cat? (b) you've told all you know; (c) you certainly have not; (d) why don't you do so?
- (46) We are looking for the boy **WHOM** . . .
 (a) you know I am; (b) John can see him here; (c) stole the apples; (d) you spoke to us about.
- (47) Tom is bigger than Dick. Dick is bigger than Jack. **THEREFORE** . . .
 (a) they are all big; (b) Tom is bigger than Jack; (c) they are tall for their age; (d) no one is short.
- (48) He has been a thoroughly bad boy; **HOWEVER**, . . .
 (a) he is going to improve; (b) he was not very bad though; (c) he will be just as bad again; (d) he is not a bad girl.
- (49) I hear you have been unwell **SINCE** . . .
 (a) you are quite well again; (b) to-morrow or next week; (c) I saw you last; (d) you may stay a little longer.
- (50) You have taken some of the sweets **IN SPITE OF** . . .
 (a) your not having any; (b) every penny you spend; (b) my telling you not to touch them; (d) not waiting to be asked.

Norms of Performance. See p. 84.

5. A Reported Speech Test

INSTRUCTIONS (to pupil)

When we give an account of what some one has been saying we may either repeat exactly what was said, or we may content ourselves by just giving the sense of it. In the first case we *quote* the actual words and use inverted commas to show what these words were. When it

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does not matter whether the actual words are repeated or not we do not use any special punctuation marks to show what was said.

1. Look at the following sentence:

The policeman said, "What are you doing here?"

This might have been expressed just as well in these words:

The policeman asked what I was doing there.

Notice that "are" is changed to "was"; this is a change of *tense* or *time*.
"Was," we say, is in the past tense.

Notice, too, the difference in punctuation.

2. Now work through the following test. Fill in the blanks with the correct *tense* words. In every case the second sentence must have the same meaning as the first.

- (1) He said, "I have not seen you before."
He said that he . . . not seen her before.
- (2) Mother said, "He will certainly pay if he can."
Mother said that he . . . certainly pay if he
- (3) "Do you think I shall get better?" he asked.
He asked me if I . . . he would get better.
- (4) "May I come with you?" she inquired.
She inquired whether she . . . come with me.
- (5) "Next month," she said, "I shall have known you for two years."
She said that in a month she . . . have known me for two years.
- (6) John said, "I fail to see what you mean."
John said that he . . . to see what I
- (7) Father said, "Let us all go to the Zoo."
Father said (suggested) that we . . . all go to the Zoo.
- (8) Ethel said, "I am glad to see you."
Ethel said that she . . . glad to see him.
- (9) She said, "I saw him do it."
She said that she . . . him do it.
- (10) He said, "I will never send you away if you are willing to stay with me."
He said that he . . . never send me away if I . . . willing to stay with him.
- (11) "No man is sure of his supper till he has eaten it," he used to say.
It was a saying of his that no man . . . sure of his supper till he . . . eaten it.
- (12) "Don't be afraid," he said.
He told me that I . . . n't be afraid.
- (13) "May I help you?" asked the child.
The child asked me whether he . . . help me.

- (14) "Where do flies go in the winter time?" she inquired.
She inquired where flies . . . to in the winter time.
- (15) "Can you speak French?" asked Mary.
Mary asked me whether I . . . speak French.
- (16) "All spies are to be shot at sight," he ordered.
He gave orders that all spies . . . to be shot at sight.
- (17) The stranger said, "I must be getting on, but I shall be calling again this afternoon. Will you let your uncle know?"
The stranger said that he had to be getting on, but that he . . . be calling again . . . afternoon, and . . . I let my uncle know.
- (18) "I shall have finished by eight o'clock," he announced.
He announced that he . . . have finished by eight o'clock.
- (19) "Who is she?" he asked.
He inquired who she
- (20) "What are we to do?" they asked.
They asked what they . . . to do.
- (21) "What will become of me?" Jack wondered.
Jack wondered what . . . become of him.
- (22) "Can't you come immediately?" I asked.
I asked whether he . . . not come immediately.
- (23) They sent me a wire, "Please return at once."
They sent me a wire to say that I . . . return at once.
- (24) His advice to her was, "See a doctor about it."
His advice to her was that she . . . see a doctor about it.
- (25) The tourists said, "How glorious the sunset is."
The tourists were heard to say how glorious the sunset

Norms of Performance

Age .	8½-9	9-9½	9½-10	10-10½	10½-11	11-11½
Score . .	13½	14½	15½	16½	17½	18½

III. READING SCALES AND TESTS

1. Sentences for a Reading Scale

INSTRUCTIONS

These sentences should be presented to the child in a suitably large size of type.

- (1) The dog got wet, and Tom had to rub him dry.
- (2) He was a very good boy to give you some of his sweets.
- (3) My sister likes me to open my book and read to her.
- (4) Go away and hide behind that door where we found you just now.

- (5) Please don't let anyone spoil these nice fresh flowers.
- (6) The string had eight knots in it which I had to untie.
- (7) Wine is made from the juice of grapes, which grow in warm countries.
- (8) Mary went to the grocer's and bought some sugar and some syrup.
- (9) Quench your thirst by drinking a glass of our sparkling ginger ale.
- (10) The people could scarcely obtain enough food to remain healthy.
- (11) Elizabeth had her hair thoroughly combed and her fringe cut.
- (12) By stretching up, George just managed to touch the garage ceiling.
- (13) Father had a brief telephone conversation with my cousin Philip.
- (14) This coupon entitles you to a specimen piece of our delicious toffee.
- (15) The chemist could not suggest a satisfactory remedy for my headache.
- (16) Nobody recognized Roger in his disguise as a police official.
- (17) Leonaid was engaged by the Irish Linen Association to act as their London agent.
- (18) Judged by his photographs your nephew is certainly a peculiar character.
- (19) The examiner was impatient when I hesitated over a difficult phrase in my reading.
- (20) Delicate individuals should gradually be accustomed to gentle physical exercise.
- (21) The musician whose violin was interfered with has our sincere sympathy.
- (22) The soloist was not in a convenient position for seeing every one in his audience.
- (23) Christopher omitted to acknowledge the receipt of Michael's annual subscription.
- (24) The secretary said there had been a substantial increase in the Society's expenditure.
- (25) The Borough Council decided to celebrate the occasion by organizing a gigantic sports festival.
- (26) It is essential that engineering apprentices should acquire some good technical qualification.
- (27) Particulars of the careers of eminent men will be found in any good encyclopedia or biographical dictionary.
- (28) Certificates of insurance will be issued to all policy-holders paying the necessary premium.
- (29) The ceremony ended, appropriately enough, with the choir and orchestra joining in the National Anthem.
- (30) It is both a newspaper which chronicles events and a magazine with the usual miscellaneous features.
- (31) The necessity for accelerating the work of the Economic Conference was repeatedly emphasized.

(32) These documents constitute an authoritative record of a unique colonial enterprise.

(33) Psychology is a science which seems to fascinate both the adult and the adolescent student.

Norms of Performance. See p. 102.

2. Questions on the Reading Scale for Infants and Juniors

The questions that follow are not intended for children below the age of seven. They should be read aloud, the choice of answer where given being shown on a blackboard. The children under examination should find the answer by consulting the appropriate sentence in the reading scale. They should be told to write (a), (b), (c), or (d) by way of answer when it will save time.

- (1) It says that Tom rubbed the dog because it was . . . what?
(a) dry; (b) wet; (c) cold; or (d) hot.
- (2) It says that the boy gave away some of his sweets, and so we call him . . . what?
- (3) It says that when you open your book your little sister likes you to do . . . what?
(a) shut it; (b) show her the pictures; (c) read to her; or (d) teach her to read.
- (4) It says that we found you . . . where?
- (5) It says that we don't want the flowers to be what . . . ?
(a) fresh; (b) nice; (c) spoilt; or (d) taken?
- (6) It says that the knots in the string had to be . . . what?
(a) tied; (b) untied; (c) counted; or (d) tightened.
- (7) It says that from the juice of grapes we get . . . what?
- (8) It says that Mary went to buy the sugar and the syrup . . . where?
- (9) It says that ginger ale will stop you from being . . . what?
(a) quenched; (b) sparkling; or (c) thirsty?
- (10) It says that if the people were to be kept from getting ill they must have more . . . what?
- (11) Which word in this sentence tells us that the person who did Elizabeth's hair made a good job of it?
- (12) It says that George was able to touch the garage ceiling when he did . . . what?
- (13) It says that Father's talk on the telephone was . . . what?
(a) short; (b) important; (c) interesting; or (d) not finished.
- (14) In this sentence the word that tells you that you have a right to a piece of toffee is . . . what?
- (15) It says that the customer had a headache, but that the chemist couldn't find him . . . what?

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(16) It says that people did not know Roger because he was . . . what?

(17) It says that the Irish Linen Association did . . . what?

(a) gave Leonard a job; (b) gave him the sack; (c) got him to act in a play for them; or (d) stopped him from getting any other work.

(18) It says that the nephew was . . . what?

(a) photographed by a judge; (b) sent to prison; (c) a person of strong character; or (d) a queer person.

(19) It says that when I came to some hard words in reading I did . . . what?

(20) It says that if you are going to make weak people take exercise you must do so . . . how?

(a) little by little; (b) once a week or so; (c) at once; or (d) only now and then.

(21) It says that when the musician's violin was interfered with we were very . . . what?

(22) It says that the people were placed . . . how?

(a) in the full view of the performer; (b) quite out of view; (c) partly in and partly out of view.

(23) Which of these things does it say happened?

(a) Michael paid, and Christopher sent him a receipt; (b) Michael paid, but Christopher did not send him a receipt; (c) Michael did not pay, but he got a receipt all the same; or (d) Michael neither paid nor got a receipt?

(24) It says that the secretary stated that the Society spent . . . how much?

(a) more than it had before; (b) less than it had before; or (c) about the same as it had before.

(25) It says that the Borough Council made up their minds to arrange what . . . ?

(a) occasions; (b) sports; (c) organizations; or (d) celebrations.

(26) It says that those engineering apprentices who want to get on must pass an examination in which of these?

(a) a trade subject; (b) subjects like English and arithmetic; (c) French or German; or (d) shorthand and typewriting.

(27) It says that in the books mentioned you will find which of these?

(a) all about what great men did; (b) all about what kings and nobles have done; (c) all about the journeys of kings and nobles; or (d) all about the ideas of great men.

(28) It says that if you want a certificate to state that you are insured you must do . . . what?

(29) The words in this sentence which tell you that it was the proper thing to end up with *God Save the King* were . . . what?

- (30) The words in this sentence which mean "gives the news" are . . . what?
- (31) It says people kept saying that they must get on faster with the work of the conference which was discussing . . . which of these?
(a) trade; (b) war; (c) politics; or (d) science.
- (32) According to this sentence which of the following is correct?
(a) You can trust the account given of an enterprise that was like many other enterprises. (b) You can trust the account given of an enterprise that was quite unlike other enterprises. (c) You cannot trust the account given of an enterprise that was like many other enterprises. Or: (d) You cannot trust the account given of an enterprise that was quite unlike other enterprises.
- (33) It says that many young people and grown-ups are . . . which of these?
(a) attracted by the science that tells us about human behaviour;
(b) frightened by the science that tells us about human behaviour;
(c) attracted by the science that tells us about the human body;
or (d) frightened by the science that tells us about the human body.

3. Reading Tests for Seniors

INSTRUCTIONS (to pupil)

- (A) Make a drawing of what is described below—nothing more, nothing less.

It was an odd sort of vehicle as I saw it, with its square side, below which appeared the under-parts of the two wheels, one behind the other; while rising vertically from the middle of the top of the vehicle was a pole, as tall as the body of the vehicle itself. I saw, too, that from the extreme end of this pole a tightly stretched wire ran to the end of the other pole of equal length which projected horizontally from the bottom of the front of the vehicle. It was, indeed, an odd affair.

(This test may be scored on the basis of a mark for each point correctly made.)

- (B) *Following a train of thought*

Look at the sentences below and try to find in each case a word that would provide a suitable ending.

- (1) Hot air rises, so the hottest air in a room is always near the . . .
- (2) Do you realize that when you write on the blackboard what you hold in your hand is largely composed of the mineral remains of thousands of tiny creatures which died millions of years ago? They lived in the sea, and as they died their tiny shells sank to the bottom and in time were turned into the soft limestone known as . . .
- (3) Vegetables are largely composed of water. A potato is about three-quarters water; an apple contains more than four-fifths water; a cabbage is nine-tenths water; while a cucumber is ninety-six parts out of a hundred water; which means that only one ounce of a cucumber weighing one pound nine ounces is anything but . . .

(4) Some things, like butter or sealing-wax or pitch or glass, get softer when they are heated, so that it is difficult to say when they leave off being solid and become liquid. Ice, on the other hand, melts into water without becoming softer. Those substances which soften are usually mixtures of different things. Butter, even the best butter, has water in it besides butter-fat, and glass is made of many things melted together, such as sand, soda, and lime. Simple things, like ice, melt suddenly; many mixed things, like butter and glass, melt

(5) Bread that contains yeast, or some other substance, is light and porous. Before man learned to make yeast a portion of the unbaked dough was left from each baking and allowed to become sour. This sour dough mixed with fresh dough caused the whole mass to undergo a chemical change or, as we say, to ferment. Gas was formed, and the bread was raised or lightened or leavened. This practice is still followed in places where it is impossible to get

(6) The medicines which are most commonly taken are the so-called liver salts, fruit salts, and the like, which are sold at enormous profits. In nine cases out of ten these things are needed because we do not take enough exercise or eat the right kinds of food. So a return to a more natural kind of life in which every healthy person did an hour or two of hard work every day and ate plenty of vegetables and fruit would probably ruin the

(7) If you are travelling extremely fast, turning is dangerous, because it drains the blood into the parts of the body on the outside of the turn, and so may cause fainting. In particular, if a pilot turns a rapidly moving aeroplane upwards, he may lose consciousness, because his blood is forced into his

(8) I have little doubt that in England the people who use tooth-paste have better teeth than those who don't. But as those who can afford tooth-paste can also afford better food and better dentistry than the rest of the population, this does not prove that what is responsible for good teeth is

(9) Again, people who live in overcrowded houses generally have inferior diets and no chances of taking regular baths. So it is hard to pin down any particular kind of ill-health to

(10) Many people believe that fast driving is the chief cause of road accidents. But as most fatal accidents take place in thoroughfares where a speed limit has been imposed, other things must be taken into account besides

Norms of Performance

Age . . .	11-12	12-13	13-14	14-15
Score . . .	4.5	5.5	6.5	7.5

(C) *Fables*

Each of the fables below is followed by four sentences. Choose the one which tells you what the fable is meant to teach.

(1) A widow woman kept a hen that laid an egg every morning. She thought to herself that if she gave her hen twice as much food it would lay twice as many eggs. Alas, when she tried her plan, the hen became so fat that it left off laying altogether.

- (a) Fat hens are lazy hens.
- (b) Think before you act.
- (c) Always be content with what you have.
- (d) When things are going well leave them alone.

(2) As a cock was scratching up the straw in a farmyard in search of food he came upon a jewel that by some chance had found its way there. "Ho!" he cried, "you are a fine thing no doubt to those who like display. As for me, I should prefer a barleycorn."

- (a) Sensible people have no use for jewels.
- (b) Utility should come before ornament.
- (c) Be careful with your valuables.
- (d) Health before wealth.

(3) An astronomer used to walk out every night to gaze upon the stars. It happened one night, unfortunately, as he was walking about in the outskirts of the city, that he fell into a pond and was drowned.

- (a) Look before you leap.
- (b) Safety first.
- (c) Don't walk about with your head in the air.
- (d) Don't overlook the obvious.

(4) The Lion called the Sheep and asked her if his breath smelt. She said, "Yes"; so he bit off her head for being a fool. He called the Wolf and asked him the same thing. The Wolf said, "No"; so he tore him to pieces for being a flatterer. At last he called the Fox, who asked to be excused as he had a cold, he said, and couldn't smell.

- (a) Wise men say nothing in dangerous times.
- (b) Don't talk to those who are stronger than you are.
- (c) It doesn't always pay to say what you think.
- (d) Try to answer politely when you are asked anything.

(5) One day an old crab was heard to say to her offspring, "Why don't you walk straight, my child?" "Mother," replied the young one, "show me the way, will you? When I see you walking straight I will try and do the same."

- (a) Example is better than precept.
- (b) Don't answer back.
- (c) Politeness pays.
- (d) Actions speak louder than words.

(Scoring. Give 2 marks for the best answers, 1 for the next best.)

Key

No.	1	2	3	4	5
2 marks	d	b	c	a	a
1 mark	c	d	b	c	d

Norms of Performance

Age	10-11	11-12	12-13	13-14
Score	45	50	55	60

(D) Matching Sentences

DO YOU UNDERSTAND WHAT YOU READ?

1. Each of the sentences in the left-hand column can be matched with one that has nearly the same meaning in the right-hand column

2. See if you can arrange them all in pairs, by giving each sentence in Column Two the same number as the sentence in Column One which is most like it in meaning

(Twenty minutes will be allowed. Now start)

- | | |
|---|---|
| 1. It was an eloquent testimony to their organizing ability
2. Compulsory morality is no morality at all
3. The present appointment must not be regarded as a permanency
4. They realized immediately that they had been labouring under a delusion
5. It was obvious that they wished to evade the issue
6. The proposal was rejected without hesitation
7. They attempted to minimize the friction
8. The reconciliation of duty with pleasure is often a difficult problem
9. It is unwise to antagonize your colleagues
10. Proximity to the sea usually decreases the annual range of temperature
11. For the educated all phenomena are interrelated
12. They concluded an agreement for mutual assistance.
13. Capital is as essential to production as labour
14. Digestion and assimilation are not the same thing
15. Their revenues were quite inadequate to meet their expenses | The doctor can sometimes prevent you from getting certain diseases by vaccinating you
Wise men tell us that everything which happens is somehow connected with everything else
It does not pay to upset those you have to work with
To run a farm or a factory calls for both men and money
The job held at the moment is not likely to last long
They were mistaken in what they thought
It spoke well for their power of getting things done
You feel bound to believe what they say
Tell us exactly what the men under arrest are charged with
They always spent a great deal more than they earned
In the long run it pays to do the right thing
You must not expect to do the wisest thing if you get angry or excited
It isn't always easy to do both what we want to do and what we ought to do
You are not really good if you only do what is good when you have to
They did what they could to make things easier
They had a talk and decided to help one another
They did not want to face the facts—that was quite plain |
|---|---|

16. Their veracity admits of no question.
17. Passion is apt to blind judgment.
18. Kindly inform us what specific accusation is laid against the defendants.
19. Honesty is the best policy.
20. Immunity from infection may be developed artificially by inoculation.

If you can manage to take your food it does not always mean that your body will make full and proper use of it.

There was no doubt about the reply: it was "No, thank you!"

In the middle of a big country like Russia the difference between summer heat and winter cold is greater than in an island like Great Britain.

Norms of Performance

Age . .	11½-12	12-12½	12½-13	13-13½	13½-14	14-14½	14½-15
Score .	5	6	7	9	11	14	17

IV. SENTENCE-ARRANGEMENT TESTS

Rearranging Sentences

INSTRUCTIONS (to pupil)

1. Look at the sixteen sentences below.
They do not follow one another in proper order. Can you put them into better order? They can be arranged to form four paragraphs with four sentences in each paragraph ($4 \times 4 = 16$). Let us call these four paragraphs A, B, C, and D.
2. Put A, B, C, or D opposite each of the sentences below to show which paragraph it should be in.

(A) *Mrs Clark*

To look at, Mrs Clark is short and stout.
 I gave her a pot of jam in return.
 I am going to tell you about Mrs Clark.
 She has also a pretty little canary.
 Eva does all her errands for her grandmother.
 Mrs Clark has no husband.
 If ever I take Eva to school Mrs Clark gives us a sweet each.
 Her kitten follows her about everywhere.
 She has a daughter and a grand-daughter.
 She is still able to see without spectacles for all that.
 To finish up with I will tell you about Mrs Clark's pets.
 Her grand-daughter is called Eva.
 She has a kitten which she is very fond of.
 She always has a smile for me when I call for Eva.
 Her hair is white, so you can tell she is very old.
 At Christmas she gave me some nice handkerchiefs.

Key. Para. A: 3, 1, 15, 10. *Para. B:* 6, 9, 12, 5. *Para. C:* 14, 7, 16, 2. *Para. D:* 11, 13, 8, 4.

INSTRUCTIONS (to pupil)

1. Look at the eight sentences below.

If they had been put into proper order they would have made a good account of the movement of the blood round the body.

Can you show the proper order by writing the numbers of the sentences as they ought to run?

2. Write the numbers in proper order in a line at the bottom of this paper.

(B) Our Blood

(1) The blood is driven out of the heart into two large blood-vessels called arteries.

(2) By circulation we mean movement round and round.

(3) As these veins get nearer to the heart they join up to form larger blood-vessels.

(4) These sentences are about the circulation of the blood.

(5) As a result of the movement of the blood which we have described, our bodies are kept healthy and strong.

(6) It is the heart which, acting like a pump, sends the blood round and round the body.

(7) The blood can pass in one direction only through these blood-vessels, because of the way they are made.

(8) From the arteries the blood flows into the veins and then back along the veins to the heart again.

Scoring. Give a mark for each sentence that follows its right predecessor. The maximum score is seven, since if seven sentences are correctly placed the eighth must be, too. Few, if any, children will be found to have seven sentences correctly placed and not eight.

In other words, give a mark to each sentence that has its right predecessor, and a mark for No. 4 if placed first.

Key. The correct order is: 4, 2, 6, 1, 8, 3, 7, 5.

Norms of Performance

Age	9-10	10-11	11-12	12-13	13-14
Score	2.5	3.0	3.5	4.0	4.5

V. TIME-RELATION TESTS

1. Related Actions

INSTRUCTIONS (to pupil)

1. You are going to see twenty combined actions take place. Four attempts are made below to describe each of these actions or sets of actions. All that you will be required to do is to put a cross (x) by the side of the sentence—(a), (b), (c), or (d)—which describes most accurately what you have seen done.

2. Notice particularly the *order* in which you see the events occur.
3. Be sure you read all four sentences carefully before making your choice.

Note to Examiner. The action illustrated is the one shown underlined, as (a), (b), (c), or (d).

- (1) (a) While Mr W. walked across the room he read a book.
(b) Mr W. walked across the room reading a book.
(c) Mr W. walked across the room and read a book.
(d) Mr W. read a book as he walked across the room.
- (2) (a) As he took out his watch to see the time Mr W. read a book.
(b) Mr W. read something and took out his watch to see the time.
(c) While reading his book Mr W. took out his watch to see the time.
(d) After he had been reading for a little while Mr W. took out his watch to see the time.
- (3) (a) Taking up his book, Mr W. said, "Turn to page 39."
(b) Mr W. took up his book and said, "Turn to page 39."
(c) Before Mr W. took up his book he said, "Turn to page 39."
(d) When he had taken up his book Mr W. said, "Turn to page 39."
- (4) (a) As he put his hand into his pocket Mr W. took out his watch.
(b) Mr W. put his hand into his pocket and took out his watch.
(c) Putting his hand into his pocket, Mr W. took out his watch.
(d) When Mr W. put his hand into his pocket he took out his watch.
- (5) (a) Mr W. read for a little and then went to sleep.
(b) While he was reading Mr W. fell asleep.
(c) As Mr W. began to read he fell asleep.
(d) After he had been reading for a little while Mr W. fell asleep.
- (6) (a) When Mr W. had raised his right arm he lowered his left arm.
(b) Mr W. raised his right arm and lowered his left arm.
(c) As Mr W. raised his right arm he lowered his left arm.
(d) No sooner had Mr W. raised his right arm than he lowered his left arm.
- (7) (a) Making as little noise as possible, we sat down.
(b) We made as little noise as possible and sat down.
(c) We sat down and made as little noise as possible
(d) After making as little noise as possible we sat down.
- (8) (a) Mr W. sneezed violently as he took out his handkerchief.
(b) Before he could get at his handkerchief Mr W. sneezed violently.

- (c) Mr W. sneezed violently and began to search for his handkerchief.
- (d) When Mr W. sneezed he had to look for his handkerchief.
- (9) (a) While we have been doing this test the hands of the clock have gradually moved round.
- (b) As we began this test the hands of the clock gradually moved round.
- (c) When we were doing this test the hands of the clock began gradually to move round.
- (d) We have done a part of this test, and the hands of the clock have moved round.
- (10) (a) The boy was writing when Mr W. came into the room.
- (b) The boy wrote something, and Mr W. came into the room.
- (c) As Mr W. came into the room the boy wrote something.
- (d) As soon as the boy began writing Mr W. came into the room.
- (11) (a) As we sat down we made a noise, and so Mr W. said, "Silence."
- (b) While we were sitting down we made a noise, and so Mr W. said "Silence."
- (c) Having sat down, we made a noise, and so Mr W. said, "Silence."
- (d) We sat down and made a noise, and so Mr W. said, "Silence."
- (12) (a) Sharpening his pencil and opening his book, Mr W. began to write.
- (b) Mr W. sharpened his pencil and, opening his book, began to write.
- (c) Having sharpened his pencil, Mr W. opened his book and began to write.
- (d) As he sharpened his pencil Mr W. opened his book and began to write.
- (13) (a) As Mr W. refilled his fountain-pen he wiped it with a duster.
- (b) Mr W. refilled his fountain-pen and wiped it with a duster.
- (c) Refilling his fountain-pen, Mr W. wiped it with a duster.
- (d) While he was refilling his fountain-pen Mr W. wiped it with a duster.
- (14) (a) Mr W. got up from his chair, caught his knee in the table, and upset a vase of flowers.
- (b) Having got up from his chair, Mr W. caught his knee in the table and upset a vase of flowers.
- (c) Getting up from his chair, Mr W. caught his knee in the table and so upset a vase of flowers.
- (d) Getting up from his chair and catching his knee in the table, Mr W. upset a vase of flowers.

- (15) (a) Teacher took some books from the pile, and Mr W. took some books as well.
(b) Teacher took the same number of books from the pile as Mr W. did.
(c) Mr W. and teacher kept taking books from the same pile.
(d) Mr W. and teacher kept taking books from the pile alternately.
- (16) (a) When Mr W. had moved quietly on tiptoe he approached the door.
(b) Mr W. moved quietly on tiptoe and then approached the door.
(c) After Mr W. had been moving quietly on tiptoe for a little while he approached the door.
(d) Moving quietly on tiptoe, Mr W. approached the door.
- (17) (a) Mr W. took off his shoes, forgot where he was, and began to sing.
(b) Forgetting where he was, Mr W. took off his shoes and began to sing.
(c) When Mr W. had taken off his shoes he forgot where he was and began to sing.
(d) Forgetting where he was, Mr W. began taking off his shoes and singing.
- (18) (a) As Mr W. wiped his feet on the mat he knocked at the door and walked in.
(b) Mr W. wiped his feet on the mat, knocked at the door, and walked in.
(c) Wiping his feet on the mat, Mr W. knocked at the door and walked in.
(d) Mr W. knocked at the door and, wiping his feet on the mat, walked in.
- (19) (a) Stooping down and keeping his knees stiff, Mr W. found that he was just able to touch his toes.
(b) When he had stooped as far as he could Mr W. found that, keeping his knees stiff, he was just able to touch his toes.
(c) Having kept his knees stiff, Mr W. stooped down and found that he was just able to touch his toes.
(d) When he began to stoop down Mr W. kept his knees stiff and found that he was just able to touch his toes.
- (20) (a) As soon as he was told to stop writing Mr W. put his pen down and sat up smartly.
(b) Putting his pen down when he was told to stop writing, Mr W. sat up smartly.
(c) Putting his pen down and stopping writing, Mr W. sat up smartly.
(d) Stopping his writing and putting his pen down, Mr W. sat up smartly.

2. Some Common Time-relation Words

INSTRUCTIONS (to pupil)

1. Each of the blanks in the test below was originally filled with one of the four words supplied with the sentence they follow.
2. You are required to find this word and underline it.
3. Notice that all the answer words refer to the **TIME** at which or during which things occur.
4. Here is one done for you:
Between the first and second acts of the play there will be a short . . . (SCENE INTERVAL REST DRAMA)

Now Begin

- (1) A cinema show that goes on without stopping from 1 P.M. to 11 P.M. is said to give a . . . performance.
(GOOD PUNCTUAL CONTINUOUS IRREGULAR)
- (2) You have been absent three times in a fortnight. You must try to be more . . . in attendance.
(PUNCTUAL REGULAR UP-TO-DATE DECIDED)
- (3) You have been late three times this week. You must try to be more . . . in attendance.
(PUNCTUAL REGULAR UP-TO-DATE DECIDED)
- (4) It was fortunate that my arrival . . . with that of the prince.
(COINCIDED CLASHED SUCCEEDED STABILIZED)
- (5) Tell the doctor he need not hurry; there is no . . . danger.
(OPPORTUNE UNTIMELY PREMATURE IMMEDIATE)
- (6) As Mr Green was still alive the announcement of his death in the newspapers was rather . . .
(OPPORTUNE ULTIMATE PREMATURE SIMULTANEOUS)
- (7) Uncle's arrival was . . . because I wanted to tackle him about the holiday.
(ABSURD INCESSANT OPPORTUNE UNUSUAL)
- (8) In a good 'talkie' the movements on the screen and the sounds and speeches have to be perfectly . . .
(EQUALIZED SYNCHRONIZED ILLUMINATED FOCUSED)
- (9) Earthquakes in this country are . . .
(REGULAR PUNCTUAL INFREQUENT SIMULTANEOUS)
- (10) When children read aloud together we sometimes call it . . . reading.
(SIMULTANEOUS INCESSANT SPONTANEOUS ARTISTIC)
- (11) Does he come to see you often? No, he comes very . . .
(FREQUENTLY UNEXPECTEDLY SELDOM UNWILLINGLY)

(12) In the procession the Lord Mayor was both . . . and followed by mounted policemen.

(SUCCEEDED PRECEDED OPPOSED ANTICIPATED)

(13) The verses were sung by the boys and the girls . . . —that is, first a verse by the boys and then one by the girls, and so on.

(SUCCESSIVELY ALTERNATELY UNEXPECTEDLY CONTINUOUSLY)

(14) I am changeable, but she is . . . in her affections.

(CONSTANT SINCERE UNSOUND IMPULSIVE)

(15) We were instructed to turn back to the . . . chapter.

(SUBSEQUENT PRECEDING ULTIMATE SUCCEEDING)

(16) Do you ever see her nowadays? Oh, yes, very . . .

(SELDOM NICELY OFTEN PLEASANTLY)

(17) When George I died he was . . . by his son George II.

(OPPOSED SUCCEEDED PRECEDED ANTICIPATED)

(18) When I saw him at Easter he was very ill, but he . . . recovered, and by Christmas he was quite well.

(INSTANTLY QUICKLY GRADUALLY ABSOLUTELY)

(19) Magazines and weekly newspapers are sometimes called . . .

(PERIODICALS GRADUALS NEWSPRINT DAILIES)

(20) An evening school where you can go on with your studies is sometimes called a . . . school.

(CONTINUATION SCHOLARSHIP DOMESTIC FINISHING)

(21) She forgot that I had already spoken to her about it on a . . . occasion.

(CLEARER PREVIOUS PROPER PUNCTUAL)

(22) I found that another man had already set up a . . . claim to the property.

(PRIOR EVENTUAL SIMULTANEOUS SUBSEQUENT)

(23) I hear that business is going on as usual . . . alterations to the premises.

(AFFECTING DURING CONTINUING PREVENTING)

(24) They say that they will repair your shoes at that shop . . . you wait.

(HOWEVER ALTHOUGH WHILE BEFORE)

(25) The electric current was not a steady one, but an . . . one.

(INTERMITTENT IMMEDIATE URGENT UNUSUAL)

(26) We were told to arrange the events in . . . order.

(PERFECT ALTERNATE CHRONOLOGICAL RELATIVE)

(27) Answer the letter before you do anything else, as we were asked for an . . . reply.

(ORIGINAL OPPORTUNE URGENT UNTIMELY)

(28) Johnson, Goldsmith, and Burke were alive at the same time, so we speak of them as . . .

(CELEBRITIES CONTEMPORARIES CITIZENS FRIENDS)

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- (29) We could not rest for the . . . chirp of the grasshoppers.
(ELECTRIC ORIGINAL INCESSANT UNEXPECTED);
- (30) We have had three wet summers in . . .
(JULY 1931 SUCCESSION HISTORY)
- (31) He recognized the man as one of his . . . companions.
(PREMATURE FORMER SUBSEQUENT ULTIMATE)
- (32) 16, 17, 18, 19, and 20 are . . . numbers.
(INTERMITTENT SUBSEQUENT SMALL CONSECUTIVE)
- (33) Early in the year trade was very bad, but it . . . recovered.
(SUBSEQUENTLY ALTERNATELY NEVER IGNORANTLY)
- (34) Did I really see her? No, I just caught a . . . glimpse of her back.
(RELATIVE MOMENTARY CONTINUOUS CONTEMPORARY)
- (35) We live in a world where change is . . .
(INFREQUENT SIMULTANEOUS CHRONOLOGICAL PERPETUAL)
- (36) "Pull it out at once," I said to the dentist, "and don't . . . the agony."
(DELAY ANTICIPATE PROLONG IGNORE)
- (37) He works by fits and starts; his efforts are always . . . efforts.
(REGULAR POWERFUL SPASMODIC ENERGETIC)
- (38) Is this the bill for last quarter or for the . . . quarter?
(MONTHLY CURRENT IMMINENT BROKEN)
- (39) A man who is always at work is said to be in . . . employment.
(REGULAR GOOD WELL-PAID PUNCTUAL)
- (40) Do you *ever* see him now? No, I . . . see him.
(SELDOM RARELY NEVER OFTEN)
- (41) Go away. Why do you . . . annoy me?
(SELDOM NEVER CONTINUALLY SUBSEQUENTLY)
- (42) He has not succeeded yet, but I am sure that he will . . . do so.
(ULTIMATELY NEVER USUALLY OFTEN)
- (43) I did not say I was coming, so I was surprised to find that the Government had . . . my arrival.
(ANTICIPATED FORGOTTEN IGNORED PROTRACTED)
- (44) I stole in on tiptoe to take the jam but found that my brother had . . . me.
(IGNORED FORESTALLED OFFENDED EVADED)
- (45) Only lawyers benefit by a . . . lawsuit.
(PROTRACTED DISAGREEABLE SUCCESSFUL PREMATURE)
- (46) A child three years behind others of the same age at school is said to be three years . . .
(ADVANCED PROLONGED RETARDED QUEER)

(47) Michaelmas daisies and other flowers that don't have to be planted every year are called

(ANNUALS PERENNIALS BULBS SHRUBS)

(48) The new rules were designed to . . . the business of the annual meetings.

(PROLONG RETARD EXPEDITE TRANSACT)

(49) A festival which is celebrated once every hundred years is called a

(CELEBRATION CENTENARY THANKSGIVING GALA)

(50) Go slowly, driver, and don't . . till you get round the corner.

(SLACKEN SPEED EXPEDITE ACCELERATE DEGENERATE)

(51) It was an . . . on Shakespeare's part to introduce a clock into his play of Julius Cæsar

(ANACHRONISM ACCELERATION ANTICIPATION OPPORTUNITY)

(52) As a rule she answered letters with the utmost

(ANTICIPATION OPPORTUNITY PROMPTITUDE PROLONGATION)

(53) He applied the match, and the explosion followed

(SUCCESSIVELY ALTERNATELY INSTANTANEOUSLY IMPULSIVELY)

(54) It was plain that he merely wished to . . when he kept making impracticable suggestions.

(EXPEDITLY TEMPORIZE ENLARGE PERPETUATE)

(55) Much of this author's work was published . . .

(IMMINENTLY MOMENTARILY ABSOLUTELY POSTHUMOUSLY)

(56) It was during the . . . from 1797 to 1807 that Wordsworth did his best work

(DECADE CENTURY AGE GENERATION)

(57) They were arrested as aliens in 1914 and imprisoned for the . . . of the war.

(SUCCESSION PROLONGATION PROTRACTION DURATION)

(58) We have now moved out of the wooden buildings in the suburb, and our new . . . address is 39 Market Street.

(PERMANENT ADDITIONAL CHRONOLOGICAL ALTERNATIVE)

(59) It was just a . . . giddiness, I shall soon be all right again.

(PROTRACTED TRANSIORY PREMATURE SIMULTANEOUS)

(60) Try to be brisker, you are always so . . in setting about a job.

(DILATORY OPPORTUNE PUNCTUAL INTERMITTENT)

Norms of Performance

Age	10-11	11-12	12-13	13-14	14-15
Score	15	22	27	32	36

VI. PERSONAL QUALITIES TEST

1. Paired Qualities

INSTRUCTIONS (to pupil)

Read each of the twenty statements below carefully. As you read them place a tick (✓) after those that you think are TRUE and a cross (×) after those that you think are UNTRUE. Here are two done for you:

The same person could be both *kind* and *honest*.

The same person could be both *cruel* and *gentle*.

- (1) The same person could be both *handsome* and *ugly*.
- (2) The same person could be both *honest* and *foolish*.
- (3) The same person could be both *thoughtful* and *lovable*.
- (4) The same person could be both *cruel* and *cowardly*.
- (5) The same person could be both *faithful* and *stupid*.
- (6) The same person could be both *brave* and *excitable*.
- (7) The same person could be both *hard-hearted* and *honest*.
- (8) The same person could be both *brave* and *sociable*.
- (9) The same person could be both *vain* and *modest*.
- (10) The same person could be both *spiteful* and *unkind*.
- (11) The same person could be both *grumpy* and *generous*.
- (12) The same person could be both *witty* and *wise*.
- (13) The same person could be both *hateful* and *admirable*.
- (14) The same person could be both *clever* and *treacherous*.
- (15) The same person could be both *kind* and *foolish*.
- (16) The same person could be both *jealous* and *polite*.
- (17) The same person could be both *cheerful* and *selfish*.
- (18) The same person could be both *affectionate* and *dishonest*.
- (19) The same person could be both *sensible* and *ugly*.
- (20) The same person could be both *good-natured* and *conceited*.

Norms of Performance

Age	10-11	11-12	12-13	13-14
Score	5	6.5	8	9.5

2. An Aesop's Fables Test for Older Children

INSTRUCTIONS

1. Children should be supplied with paper and pencil and instructed to write their names and ages (in years and months) at the top.

2. Twenty single-word answers will be required, and the answer-paper should be prepared for these.

3. When the children are ready the following story should be read aloud:

The Dog and the Shadow

One day a dog stole a piece of meat and was crossing a brook when he saw his reflection in the water. He thought it was another dog with another piece of meat. He immediately snatched at what he saw, but in doing so he lost what he had already.

4. The teacher should then say: "What single word best describes this dog? Answer together." Many will answer *greedy*, which is correct. Some children will suggest *selfish*; this is not so good, of course. Explain why. Explain, too, that *never-satisfied*, if written with a hyphen, would be counted as one word.

5. Then say: "Now you are going to hear some more stories, and I shall want you to choose just one word to describe something in each of them. The best answers will receive the most marks. Ready. Here is the first story. Listen carefully."

6. The test may be given in either of two ways. The children may be asked to choose their own descriptive word (Form A) or they may be asked to select one from among five presented to them.

7. Read each story and the question that follows twice.

(1) *The Countryman and the Snake*

One winter day a countryman, finding a snake lying by the roadside, half-dead with cold, took pity on it, carried it home, and laid it beside the fire to recover. No sooner did the warmth of the fire revive it than it attacked the children of the house. Thereupon, the countryman took up a mattock and slew it.

What single word best describes this snake? It was very . . . *what?*

(2) *The Cock and the Jewel*

A cock, scratching in a farmyard, turned up a jewel. Upon seeing it, he said, "You are a very fine thing, no doubt, to those who like to wear jewellery, but for my part, I prefer a barleycorn."

What single word best describes this cock? He was . . . *what?*

(3) *The Fox and the Goat*

A fox who had fallen into a well from which he could not escape happened to see a goat look in. Thereupon he invited the goat to come down and drink, saying, "The water is deliciously sweet and refreshing." The goat, hearing this, jumped down, whereupon the fox leaped up at once on to his back, and, taking advantage of the poor creature's horns, got safely away.

What single word best describes this fox? He was . . . *what?*

(4) *The Jackdaw and the Peacock's Feathers*

A jackdaw who had picked up some peacock's feathers stuck them among his own and at once began to strut about in the com-

(16) *The Two Pots*

An earthenware pot and a copper pot found themselves floating down the river in a flood. The copper pot called out to his companion, "Come close to me; I will protect you." "Oh, no," replied the earthenware pot, "that's just what I am afraid of; if I come too close to you I may bump into you and be cracked."

What single word best describes this earthenware pot? He was . . . *what?*

(17) *The Boy and the Nettle*

"Mother," said the boy, "I just touched this nettle, and it stung me." "Oh," she said, "if you had grasped it tightly you would not have been hurt."

Which word best describes what this boy should have been? His mother said he should have been more . . . *what?*

(18) *The Fox and the Crow*

A crow found a piece of cheese and flew off to a tree to enjoy it. A fox who had been watching came beneath the branches and began to flatter her, thinking that in this way he would gain possession of the tasty morsel. He praised her beauty and declared that she had a wonderful voice. "Will you not sing to me?" he asked. On hearing these flattering words the crow opened her mouth to sing and dropped the cheese, which the fox snapped up at once.

What single word best describes this crow? She was much too . . . *what?*

(19) *The Donkey and his Driver*

A donkey which was being driven along a road near the sea left the beaten track and made off for the cliffs. Just as he was about to fall over the driver seized him by the tail and tried to pull him back. The donkey, however, resisted with all his might, and the driver, in disgust, let go his hold. Thereupon the animal plunged to his death.

What single word best describes this donkey? He was very . . . *what?*

(20) *The Farmer and the Partridge*

A partridge caught in a farmer's net called out to him, "If you will only let me go I will promise to lead all my friends into your snares." "No," said the farmer, "I cannot believe anyone who talks like that."

Which word best describes what this partridge was prepared to be? He was prepared to be . . . *what?*

KEY TO THE ÆSOP'S FABLES TEST (FORM A)

The number at the top of each column gives the mark to be assigned to the words found in it. It should not be difficult to find a value for the various other words that will be offered. Differences of opinion must inevitably arise about the value of the various possible answers. A discussion of reasons for opinions held should be educationally profitable.

5	4	3	2	1
(1) <i>The Countryman and the Snake</i>				
ungrateful	unthankful treacherous	vicious unappreciative	cowardly mean	selfish sly
(2) <i>The Cock and the Jewel</i>				
sensible wise philosophical	practical matter-of-fact	intelligent knowing discerning	plain humble	careful thoughtful cautious
(3) <i>The Fox and the Goat</i>				
crafty wily	artful cunning tricky	clever intelligent resourceful	mean selfish	sly cowardly
(4) <i>The Jackdaw and the Peacock's Feathers</i>				
vain pretentious	conceited	proud pompous haughty	foolish stupid silly	ignorant thoughtless
(5) <i>The Thirsty Pigeon</i>				
hasty precipitate	rash impetuous impulsive	reckless over-eager incautious	impatient careless thoughtless	foolish stupid silly
(6) <i>The Fox and the Grapes</i>				
disgruntled chagrined	mortified sour sore	crestfallen baffled humiliated	angry annoyed vexed	upset downhearted beaten
(7) <i>The Ant and the Grasshopper</i>				
improvident	thrifless unthrifty happy-go-lucky	short-sighted thoughtless careless	slothful lazy careless	foolish silly, etc.
(8) <i>The Widow and her Hen</i>				
grasping	avaricious never-satisfied	greedy dissatisfied discontented	foolish stupid unreasonable ignorant	selfish cruel
(9) <i>The Hare and the Tortoise</i>				
cock-sure over-confident	conceited swelled-headed complacent	vain self-satisfied boastful	scornful lazy disdainful contemp- tuous	careless thoughtless foolish stupid silly

5	4	3	2	1
(10) <i>The Crab and her Mother</i>				
unreasonable	unsympathetic inconsiderate	inconsistent hypocritical	fussy overbearing interfering	unfair unkind harsh
(11) <i>The Crow and the Pitcher</i>				
ingenious resourceful	practical clever intelligent	skilful	persistent persevering patient	cunning crafty artful
(12) <i>The Flea and the Honey-pot</i>				
heedless	foolish incautious headstrong	venturesome unwise careless	stupid inattentive disobedient	silly
(13) <i>The Dog in the Manger</i>				
cantankerous	peevish ill-tempered spiteful	perverse awkward	disagreeable quarrelsome	selfish mean unkind
(14) <i>The Lion and his Three Counsellors</i>				
subtle tactful astute resourceful	cunning wily diplomatic	artful shrewd crafty	clever wise witty	scared frightened nervous
(15) <i>The Astronomer</i>				
absent-minded engrossed absorbed	preoccupied detached	inattentive careless incautious	dreamy studious interested	foolish silly, etc.
(16) <i>The Two Pots</i>				
wary cautious prudent	sensible wise far-seeing	careful intelligent clever	heedful alert	frightened nervous terrified
(17) <i>The Boy and the Nettle</i>				
resolute decided deliberate	determined bold firm	brave courageous manly	sensible careful wary	alert quick
(18) <i>The Fox and the Crow</i>				
gullible easily-gulled credulous	simple easily-flattered	trustful simple vain	foolish stupid silly, etc.	ignorant careless
(19) <i>The Donkey and his Driver</i>				
headstrong stubborn obstinate	defiant wilful self-willed	stupid unyielding defiant	disobedient awkward tiresome	careless heedless
(20) <i>The Farmer and the Partridge</i>				
treacherous traitorous	unprincipled disloyal unscrupulous	faithless false deceitful	cowardly mean sneaky	selfish unkind wicked

Norms. The following table shows what may be expected at different ages in an average school. Children in a poor district will do less well as a rule.

—	11·5	12·5	13·5
Boys	20 per cent.	24 per cent.	28 per cent.
Girls	19 per cent.	24 per cent.	29 per cent.

The results here given suggest that boys at eleven years of age will do this kind of test better than girls at eleven, but that at thirteen the girls will usually beat the boys.

KEY TO THE ÆSOP'S FABLES TEST (FORM B)

(Multiple Choice Form)

Note. The numbers below the words are for the examiner and show the value of the words for marking purposes. They should not be made known to the children until after the test is completed.

(1) hungry 0	ungrateful 2	vicious 1	lively 0	cunning 0
(2) noisy 0	greedy 0	sensible 2	silly 0	knowing 1
(3) strong 0	mean 1	jealous 0	wily 2	impatient 0
(4) vain 2	gay 0	proud 1	disappointed 0	pretty 0
(5) far-sighted 0	timid 0	hasty 2	incautious 1	brave 0
(6) vexed 1	silly 0	disgruntled 2	hungry 0	sly 0
(7) short-sighted 1	tuneful 0	impulsive 0	conceited 0	improvident 2
(8) sensible 0	stupid 1	grasping 2	thoughtful 0	needy 0
(9) conceited 1	swift 0	fatigued 0	cock-sure 2	determined 0
(10) vain 0	unreasonable 2	boastful 0	interfering 1	cunning 0
(11) ingenious 2	wary 0	trustful 0	intelligent 1	cautious 0
(12) greedy 1	nervous 0	heedless 2	peevish 0	resolute 0

(13) disagreeable 1	frightened 0	cantankerous 2	avaricious 0	fearless 0
(14) cunning 1	trustful 0	self-willed 0	astute 2	faithful 0
(15) careless 1	excited 0	learned 0	preoccupied 2	wise 0
(16) simple 0	wary 2	damaged 0	intelligent 1	cowardly 0
(17) resourceful 0	trustful 0	brave 1	resolute 2	reliable 0
(18) handsome 0	gullible 2	simple 1	renowned 0	musical 0
(19) stupid 1	cowardly 0	strong 0	credulous 0	obstinate 2
(20) treacherous 2	unsuccessful 0	deceitful 1	silly 0	tactful 0

3. An English History Test

WHO ARE THEY?

Write down the names of as many as you can of the persons described in the following pen-portraits. The names you will require are among these:

Kings: Alfred, Edward the Confessor, William I, William II, Henry I, Henry II, John, Henry VII, Henry VIII, Charles I, Charles II, William III, George I, George III.

Queens: Boadicea, Eleanor, Mary Tudor, Mary Stuart, Elizabeth, Lady Jane Grey, Anne, Victoria.

Statesmen: Wolsey, Becket, More, Cecil, Strafford, Cromwell, Walpole, Chatham, Pitt, Burke, Disraeli, Gladstone.

Soldiers: Marlborough, Clive, Wolfe, Wellington, Moore, Kitchener.

Sailors: Drake, Hawkins, Frobisher, Cook, Collingwood, Nelson.

(1) This queen was tall and haughty, tart in speech, extremely vain and fond of dress, and thrifty even to meanness. Though lacking in sympathy and affection, she was clever and courageous. She was a good judge of character, a master of statecraft, and a great ruler in difficult times, devoted to the interests of her country.

(2) This king was, perhaps, our greatest ruler. He is the only great man of action of whom no defect of character is recorded. He was great in peace and war. He lived almost entirely for his people. He was a truthful person, fond of music and conversation. He will always be remembered on account of what he did for learning, for justice, and for the defence of the country.

(3) This statesman was of big square figure with the good-humoured face of a country squire. His pleasures were those of the table, the

bottle, and the chase. He was shrewd and practical, and gained a great reputation for his financial ability. He had a gift, too, for managing men. He was not interested in improving the laws: "I am no reformer," he said. But it is to his credit that he kept his country at peace for many years.

(4) This sailor was slight in build with a prominent nose and fine eyes. As a boy he was delicate but with an eager spirit and a great power of self-control. As a young naval officer he was more than once guilty of disobedience when he saw a better course to follow than the one he had been ordered to take. He was gallant in action; he made light of sickness and injuries; he was generous to his officers and beloved by his men. He was fond of display, and this weakness probably cost him his life.

(5) This king was welcomed with wild rejoicing at his accession. He had excellent abilities—great wit, charming manners, and perfect tact. But he proved to be a selfish, pleasure-loving king; moreover, his word could not be relied on. But he encouraged art and science and music. Like his father, he died calmly, even apologizing to those about him for taking so long to pass away.

(6) This queen was a quiet and inoffensive woman of rather commonplace ability. One thing said of her is that she was over-fond of the pleasures of the table. But she was a tender mother and an indulgent mistress. She was deeply religious. The business of the State, however, troubled and excited her, and she was glad to allow her favourites and her Ministers to manage the country's affairs.

(7) This red-headed general was weak and sickly as a boy. When he grew up he was always extremely shy and anything but good-looking. He had, however, a firm character. He determined early in life to become a soldier, and he fought in Flanders at the age of fifteen. He was at the same time modest and fond of reading. He is said to have declared that he would rather have written a certain famous poem than take the city against which he was about to lead an attack.

(8) This queen was noted for her beauty, her gaiety, and her courage. Her foreign upbringing and her religion made it difficult for her to understand her people. Hers was a pleasure-loving nature with strong passions which she never learned to control. Her reign at one time promised well, but it ended in disaster. She herself died by the axe of the headsman.

(9) This king had the making of a good man in him, but he was cruel, selfish, and faithless. He was probably our worst king. It has been said that he was a crafty man without sagacity, a suspicious man without insight, a learned man without wisdom, a rash man without courage, an obstinate man without firmness, and an evil man without shame.

(10) This great judge and lawyer was a king's adviser for many years. But he disliked court life, preferring to be at home among his wife and children and friends. He was a man of gentle, endearing, and happy temper. Condemned to death for refusing to obey the king and do what he thought to be wrong, he met his death bravely,

even jesting with his executioners in his last moments. His ideas of government and citizenship were far in advance of his time.

(11) This general was a man of handsome appearance and agreeable manners. But he was selfish and miserly, often stooping to under-hand practices to gain his ends. As a soldier he was brilliant, and in spite of the strict discipline which he habitually kept he was almost worshipped by his men. In battle he never lost his head. He was impassive before victory, before danger, and before defeat.

(12) This young lady had a sweet and amiable disposition, and she was unusually accomplished and learned for her times. She had no desire to become a ruler and, indeed, fainted when she heard that she had been proclaimed queen. Her greatest delight was to sit at home in a window-seat and read her beloved Plato. She died by the executioner's axe and met her fate bravely.

(13) This statesman was pale in complexion with intensely dark eyes and coal-black hair, which he wore in well-oiled ringlets. He always dressed in the height of fashion and was thought of by some of his opponents as an absurd fop. When he spoke in public his gestures were often theatrical and extravagant. He endeavoured to teach his party to trust the people and to do everything possible to promote the greatness of the Empire.

(14) This red-bearded, gay-hearted sailor was a splendid commander in a fight, careful in preparation and quick in execution, but he often lost his temper and swore great oaths. He was a strict disciplinarian and had a short way with mutineers. Many of his practices at sea would be condemned to-day. He was good to those who were loyal to him and chivalrous to his country's enemies, much as he detested the nation to which they belonged.

(15) This king was tall and handsome and somewhat corpulent. He was a good and kind husband. As a king he was a firm ruler and did justice fearlessly. Though he was not cruel by nature, he was merciless to his enemies and "stark to those that withstood his will." His great passion was for the chase, and it is said that "much he loved the tall deer as though he had been their brother."

(16) This queen was small in stature and with no pretensions to beauty. She was a conscientious and hard-working ruler. Her devotion to her duty as wife, mother, and queen was exemplary. She brought up her children carefully, some say with too little freedom. She had strong prejudices which prevented her from working easily with some of her Ministers. But she gained the respect of her people, and when she died after a long reign their grief was widespread and sincere.

(17) This famous churchman and statesman was a clever and powerful man. His greed was extraordinary, and his pride and arrogance colossal. Yet he lived like a prince, exacting a servile obedience from those about him. In the end he lost most of his high offices and died a humble and contrite man.

(18) This soldier was daring, obstinate, and masterful as a boy and with a genius for mischief. He was shipped off abroad at eighteen as untamable. But he rose to become a great ruler in the country he was sent to. At first he acted unwisely in accepting bribes, and

this was afterwards brought up against him. But when he realized the responsibilities of his position he acted with the greatest good sense and unselfishness.

(19) This king was as a young man, handsome, learned, and witty, bluff and hearty in manner, and skilled in sports and music. But he managed neither his private life nor his public business well, and as he grew older he lost his good looks, became savage in temper, tyrannical in bearing, and unscrupulous in his actions. You would recognize a portrait of him by his "grand, gross figure."

(20) This statesman was tall, thin, and pale. He held himself stiffly and looked haughty and somewhat scornful. He was clever as a child, but thought too delicate to be likely to reach manhood. He was carefully trained in politics and public speaking. He was trusted and respected rather than loved. He was our prime minister during a long period of war, and he died exhausted with the anxiety and strain of it all quite early in life.

(21) This great soldier and ruler was a man of rugged features; his brow was disfigured by its historic wart. He was moody and given to fits of gloom often followed by bursts of high spirits. His eloquence was full of fervour, and when he spoke or wrote he made great use of the language of the Bible. It is said that he made England great and her enemies tremble.

(22) This general was not highly thought of as a boy, but as a man he was respected for his simple and honourable character. As a soldier he showed invincible determination and great powers of discipline. His men learned to trust him though never to love him, as he was often out of sympathy with his countrymen. But his straightforwardness and honesty, not to mention his outstanding service as a soldier, won their deep esteem.

(23) This king, brought up abroad, was weak and sickly as a boy, and very early in life he was left fatherless and almost friendless. Most people thought him sullen and unsympathetic, but beneath a cold and ungracious manner he hid a fiery and commanding temper and an immovable courage which was seen at its best in battle when he was faced by danger or defeat.

(24) This statesman was a great patriot. But he was arrogant and dictatorial and told his countrymen that he alone could save his country from ruin. He was tall and handsome and had a fine voice. He dressed with elaborate care, but he had no regard for wealth, and he was greatly respected for his honesty in an age when most statesmen took bribes. Of a warm and impetuous nature, he was a great orator, able to make the most selfish of his hearers eager for justice and liberty.

(25) This king was of extraordinary strength and untiring energy. "He never sits down," said one who knew him; "he is always on his legs from morning to night." In consequence he led his advisers a hard life. He cared nothing for the pleasures and splendours of court life. His great passion was for law and justice. Unfortunately, when thwarted he gave way to violence of temper and did things which he lived to regret.

KEY

1, Elizabeth. 2, Alfred. 3, Walpole. 4, Nelson. 5, Charles II. 6, Anne. 7, Wolfe. 8, Mary, Queen of Scots (Mary Stuart). 9, John. 10, More. 11, Marlborough. 12, Lady Jane Grey. 13, Disraeli. 14, Drake. 15, William I. 16, Victoria. 17, Wolsey. 18, Clive. 19, Henry VIII. 20, Pitt. 21, Cromwell. 22, Wellington. 23, William III. 24, Chatham. 25, Henry II.

Norms of Performance

Age . . .	11-12	12-13	13-14	14-15
Score . . .	6	8	10	12

VII. A PROVERBS AND IDIOMS TEST

INSTRUCTIONS (to pupil)

In this test you will notice that there are fifty statements in large print, and that each statement is followed by four other statements in smaller print. One of these four, (a), (b), (c), or (d), has the same meaning (or nearly the same meaning) as the statement above it. You are to put a cross (×) by the side of it to show which it is.

Here is One Done for You

Don't count your chickens before they are hatched.

- (a) Try not to be impatient.
- (b) A fool and his money are soon parted.
- × (c) Make sure of your money before arranging how you will spend it.
- (d) Don't try to be too clever.

The time allowed will be thirty-five minutes.

Now Begin

- (1) A stitch in time saves nine.
 - (a) A girl who is speedy will do well.
 - (b) Don't spend what you ought to put into the bank.
 - (c) Troubles often accumulate if not dealt with at once.
 - (d) Machines save a great deal of labour.
- (2) Make hay while the sun shines.
 - (a) A farmer likes bright weather for his harvests.
 - (b) Strike while the iron is hot.
 - (c) Choose an open-air job if you can.
 - (d) Look before you leap.
- (3) Every cloud has a silver lining.
 - (a) A bright silk lining greatly improves a dark cloak.
 - (b) Above the clouds the stars shine clearly.
 - (c) You will find a bright side to everything if you look for it.
 - (d) Behind every dark cloud there are brighter ones.

- (4) All that glitters is not gold.
- (a) Brass buttons glitter brightly when cleaned.
 - (b) Appearances may be deceptive.
 - (c) Don't waste your money on rubbishy things.
 - (d) The cheapest things are sometimes best.
- (5) More haste less speed.
- (a) Try not to waste time over your work.
 - (b) The faster you run the slower will be your pace.
 - (c) People who rush at a job are apt to do something wrong, and this takes time to put right.
 - (d) You cannot make haste and lose speed at the same time.
- (6) One swallow doesn't make a summer.
- (a) A bird in the hand is worth two in the bush.
 - (b) It takes more than one instance to prove a rule.
 - (c) It is impossible to control the weather.
 - (d) What the swallow makes is a nest.
- (7) A watched pot never boils.
- (a) It is sometimes tedious to get a meal ready.
 - (b) People who are being watched cannot get on with their work.
 - (c) Time passes slowly when you are waiting for something to happen.
 - (d) When you put a pan on the fire don't leave it.
- (8) When the cat's away the mice will play.
- (a) Cats and mice rarely play together.
 - (b) When mother goes out some children get into mischief.
 - (c) A great many people do not like animals.
 - (d) Some people can't work unless they are watched.
- (9) Many hands make light work.
- (a) It gives children great pleasure to work together.
 - (b) If we had more than two hands it would be very convenient.
 - (c) We cannot have electric light without the labour of a great many people.
 - (d) Union is strength.
- (10) People who live in glass houses shouldn't throw stones.
- (a) Little children should not be allowed to throw stones.
 - (b) Glass is very expensive to replace once it is broken.
 - (c) Make sure you are right before finding fault with others.
 - (d) If you have mischievous children set them a good example.
- (11) There's many a slip 'twixt cup and lip.
- (a) Before you talk about your prize make sure you have it.
 - (b) Children often let their cups fall while drinking.
 - (c) It is easy to lose what we have won.
 - (d) Very few people *never* make a mistake.
- (12) A bird in the hand is worth two in the bush.
- (a) Ten pounds in your pocket is worth twenty pounds in the bank.
 - (b) Birds close at hand look better than at a distance.
 - (c) Better to live in a cottage than in a mansion.
 - (d) A little which you are sure of is better than a lot which you may never get.

- (13) Too many cooks spoil the broth.
- (a) There is no need to teach a good cook how to make broth.
 - (b) Some cooks don't understand how to make good broth.
 - (c) Domestic servants should help one another.
 - (d) When you find a person who knows what to do leave him alone.
- (14) Enough is as good as a feast.
- (a) Waste not want not.
 - (b) Gluttony does no one any good.
 - (c) A two-shilling dinner is as good as a ten-shilling one.
 - (d) What you eat after your appetite is satisfied does you no good.
- (15) Necessity is the mother of invention.
- (a) Necessity is like a mother, fond of looking after invention, her child.
 - (b) When you must you can.
 - (c) What a child needs it usually asks its mother for.
 - (d) Some men are so clever that they cannot help inventing things.
- (16) Birds of a feather flock together.
- (a) Most people are fond of social gatherings.
 - (b) Boys do not like playing with girls.
 - (c) A man is known by the company he keeps.
 - (d) After the moulting season is over birds come together again.
- (17) Half a loaf is better than no bread.
- (a) Half a loaf a day doesn't go very far.
 - (b) £2 a week may not be a good wage for a man, but it is better than nothing.
 - (c) Enough is as good as a feast.
 - (d) Mother Hubbard usually had half a loaf.
- (18) One man's meat is another man's poison.
- (a) Shopkeepers often sell bad things.
 - (b) Beware of eating poisoned meat when dining with a stranger.
 - (c) Your liking a thing is no reason for thinking I shall like it.
 - (d) You may not like my way of cooking.
- (19) Rome was not built in a day.
- (a) Rome was built in the year 753 B.C.
 - (b) It is easier to destroy a city than to build it up again.
 - (c) Don't be upset if you cannot do at once all you set out to do.
 - (d) The Book of Genesis tells us that the world was created in six days.
- (20) Experience is the best teacher.
- (a) A teacher needs experience before he can teach well.
 - (b) Much can be learned from a man of wide experience.
 - (c) We learn more from what we have lived through than from books.
 - (d) Without plenty of experience of the world we should learn nothing.
- (21) Still waters run deep.
- (a) Quiet people often know more than we suppose.
 - (b) Deep streams usually run very slowly.
 - (c) A deep well is not easily disturbed.
 - (d) Empty vessels make the most sound.

- (22) The pot should not call the kettle black.
(a) It is bad manners to tell people that they are dirty.
(b) No person should blame another if he is just as bad himself.
(c) The pot should remember that some kettles are not black.
(d) One person should never call another names.
- (23) One should never look a gift horse in the mouth.
(a) One should examine a gift as thoroughly as possible.
(b) We should not find fault with what we have got for nothing.
(c) We should be careful not to offend those who give us presents.
(d) Beware of staring at a horse which does not know you well.
- (24) Empty vessels make the most sound.
(a) Never bang an empty saucepan.
(b) The people who talk most are often the most ignorant.
(c) Drums made to sound loudly are always hollow.
(d) Full saucepans make less sound than empty barrels.
- (25) A rolling stone gathers no moss.
(a) A person who is always changing his job will not get on.
(b) If a person wishes to become rich he should move about.
(c) Moss collects best on stationary stones.
(d) Some people cannot sit still a minute.
- (26) He put all his cards on the table.
(a) He showed us everything he had in his pockets.
(b) He played without cheating.
(c) He gave up all the cards he had.
(d) He told us everything he proposed to do and hid nothing.
- (27) You are throwing dust in my eyes.
(a) You should be careful how you sweep the floor.
(b) You are wasting your time.
(c) You are trying to mislead me.
(d) You are playing me a dirty trick.
- (28) He completely took the wind out of my sails.
(a) His action made me shiver all over.
(b) He took me completely by surprise.
(c) He did me a bad turn.
(d) What he did made me very angry.
- (29) She has too many irons in the fire.
(a) She keeps poking the fire.
(b) She is very extravagant.
(c) She has too many friends.
(d) She is trying to do too many things at once.
- (30) You can't make a silk purse out of a sow's ear.
(a) You can't make a big thing out of a small thing.
(b) It is impossible to do everything.
(c) You can't make good things with bad material.
(d) Sows' ears make bad material to work with.
- (31) She likes being in the limelight.
(a) She likes going to the cinema.
(b) She is fond of bright lights.

- (c) She likes to be where she can show off.
 - (d) Limelight suits her complexion.
- (32) Those who pay the piper should call the tune.
- (a) Those who do wrong ought to suffer for it.
 - (b) Those who provide the money should be allowed to say how it is to be spent.
 - (c) Those who pay the piper are often afraid to call the tune.
 - (d) Don't order things which you can't pay for.
- (33) She can't see farther than the end of her nose.
- (a) She is short-sighted and ought to wear spectacles.
 - (b) Her nose prevents her from seeing very far.
 - (c) She doesn't look far enough ahead.
 - (d) She is very careless in crossing busy streets.
- (34) What he says should be taken with a grain of salt.
- (a) Everything he says should not be believed.
 - (b) What he says ought to be accepted without question.
 - (c) What he says must be done with great care.
 - (d) You must listen carefully if you want to understand him.
- (35) Don't make a mountain out of a mole-hill.
- (a) Don't try to do what is clearly impossible.
 - (b) Don't get a swelled head.
 - (c) Don't try to be too clever.
 - (d) Don't make a fuss about every little trouble.
- (36) Keep your nose to the grindstone.
- (a) Keep out of trouble and you will prosper.
 - (b) Mind your own business.
 - (c) Don't say too much to strangers.
 - (d) Keep on working and don't give in.
- (37) Can't you kill two birds with one stone?
- (a) Can't you do what is usually thought to be impossible?
 - (b) Can't you manage in this way to gain both your ends?
 - (c) Aren't you clever enough to hit two birds with one stone?
 - (d) Can't you use the same weapon twice?
- (38) Mr Smith can hardly keep his head above water.
- (a) Mr Smith is on the point of drowning.
 - (b) Mr Smith has done something wrong and is afraid to face it.
 - (c) Mr Smith can only just manage to live and keep out of debt.
 - (d) Mr Smith can only keep out of mischief with great difficulty.
- (39) He runs with the hare and hunts with the hounds.
- (a) He always does things the wrong way about.
 - (b) He belongs to two different racing clubs.
 - (c) He pretends to be a friend to both sides, so that later on he can join the one that wins.
 - (d) He is a very clever sportsman.
- (40) No doubt he will feather his own nest.
- (a) He is not likely to bother others with his private affairs.
 - (b) I expect he will look after himself and not think very much about any one else.

- (c) No doubt he will turn out to be very clever with his hands.
(d) He will probably not want other people to help him.
- (41) I paid him back in his own coin.
(a) I paid him back the money I owed him.
(b) I paid him back with the very same coins which he had lent.
(c) I punished him just as he had punished me.
(d) He helped me, so I helped him.
- (42) She knows which side her bread is buttered on.
(a) She certainly has good sight.
(b) She is fond of bread, but she prefers both bread *and* butter.
(c) She knows where her best interests lie.
(d) She knows how to manage a house.
- (43) He put his money on the wrong horse.
(a) He could not tell a good horse from a bad horse.
(b) In this instance his judgment was bad.
(c) He did not go to work cautiously.
(d) He never showed much sense.
- (44) He said it with his tongue in his cheek.
(a) He spoke indistinctly
(b) What he said he didn't really mean.
(c) He said what he had to say rather cleverly.
(d) He spoke indistinctly on purpose.
- (45) You've got hold of the wrong end of the stick.
(a) You don't understand what I mean.
(b) You don't want to understand me
(c) You don't appear to know how to hold a stick.
(d) You should avoid what is wrong and do what is right.
- (46) You must have got out of bed on the wrong side.
(a) You must have got out of bed on the side farthest from the door.
(b) You probably had to be called several times before you got up.
(c) You appear to be in a bad temper.
(d) You must have got up late and had to run to school.
- (47) He can't see the wood for the trees.
(a) He can't see very far because of obstacles.
(b) He doesn't know how large the wood is because of the trees.
(c) He can't find his way about in a big city.
(d) He bothers too much about little things and neglects the main thing.
- (48) One should help a lame dog over a stile.
(a) One should help a blind person to cross the road.
(b) It is cruel to make a lame dog jump over a stile.
(c) One should pity people who are lame
(d) One should help a person who is in need.
- (49) They agreed to bury the hatchet.
(a) They entered into a business partnership.
(b) They agreed to sink their differences and be friends.

- (c) They decided to give up the wood-chopping business.
 (d) They agreed to attempt the job together.
- (50) He will never set the Thames on fire.
 (a) He will never make water burn.
 (b) He will never do what others do.
 (c) He will never pass his examination.
 (d) He will never do anything remarkable.

Norms of Performance

	Boys			Girls		
Age . .	11-12	12-13	13-14	11-12	12-13	13-14
Score . .	16	20	24	17	22	27

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